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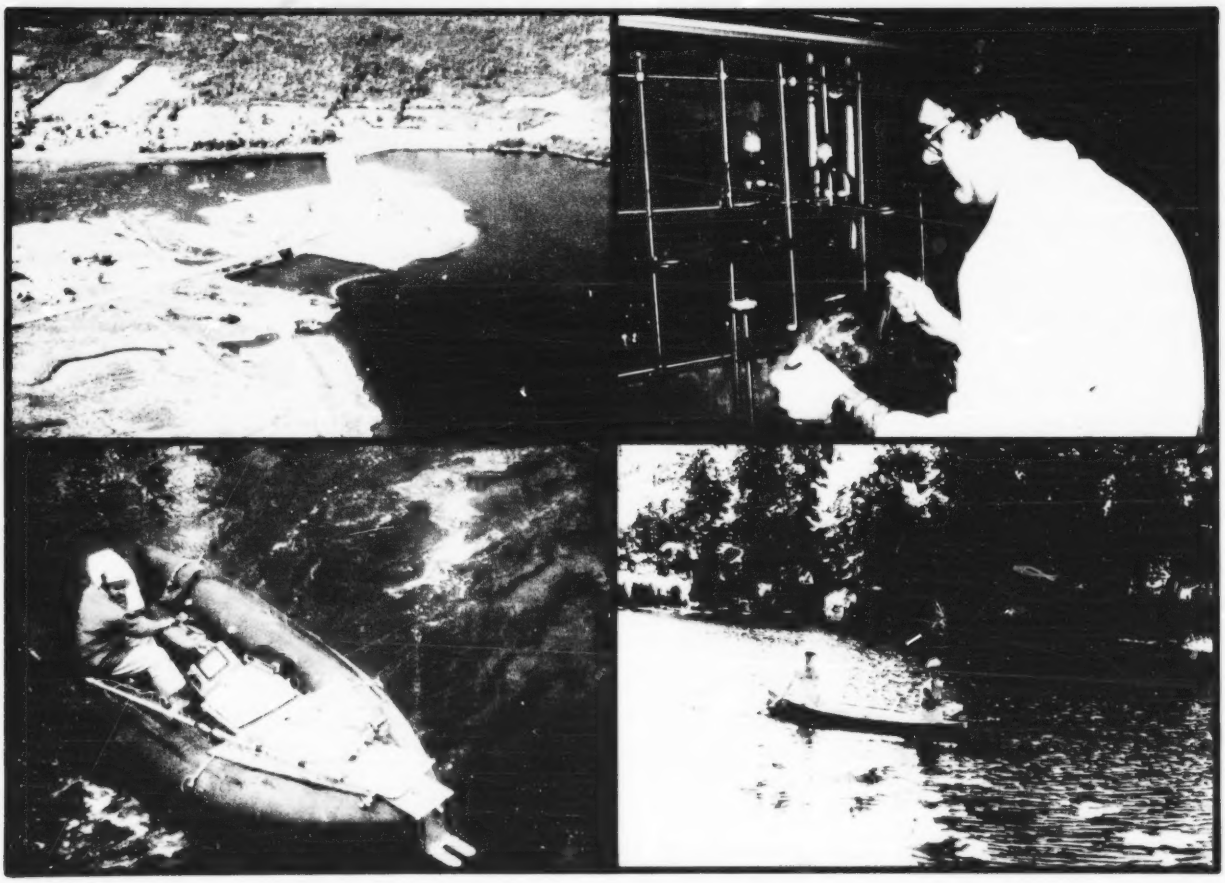
1986/87 ST. CROIX RIVER WATER QUALITY REPORT

IWD–AR–WQB–88–139



Canada

INLAND WATERS DIRECTORATE
ATLANTIC REGION
WATER QUALITY BRANCH
MONCTON, NEW BRUNSWICK

1986/87 ST. CROIX RIVER

WATER QUALITY REPORT

IWD-AR-WQB-88-139

INLAND WATERS DIRECTORATE

ENVIRONMENT CANADA

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ABSTRACT

This report presents the results of the 1986/87 St. Croix River water quality monitoring program. Physical parameters, major ions, nutrients and heavy metals concentrations are presented for six sampling stations for the period from June 1986 to September 1987. Water quality objectives for dissolved oxygen and pH were met on all occasions. Provisional data from Milltown Automatic Water Quality Monitor (AWQM) are presented for the period from September 1986 to December 1987.

RESUME

Ce rapport présente les résultats recueillis durant le programme de surveillance de la qualité des eaux de la rivière Ste-Croix, en 1986-87. Pour la période allant de juin 1986 à septembre 1987, et pour six stations d'échantillonnage, les concentrations des paramètres physiques, des ions principaux, des éléments nutritifs et des métaux lourds sont données. L'oxygène dissous et le pH rencontrèrent à chaque occasion les objectifs de la qualité des eaux prescrits. Sont présentées aussi, des données provisoires recueillies par le moniteur automatique de la qualité des eaux situé à Milltown, et ce, pour la période s'étalant de septembre 1986 à décembre 1987.

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1. INTRODUCTION

The St. Croix River and its tributary, Monument Brook has a reach of approximately 124 km and forms the international boundary between New Brunswick, Canada and Maine, U.S.A. In the upper 110 km of the St. Croix River, the water quality is considered to be pristine. The region of water quality concern is a 14 km stretch between Woodland, Me. and Milltown, N.B. which is considered to be a water quality limited segment caused by a major industrial discharge from the Georgia-Pacific Kraft Pulp Mill at Woodland, Me.

The Advisory Board on Pollution Control in the St. Croix was established by the International Joint Commission (IJC) in 1966 to coordinate water quality planning and management efforts in the basin. To assist the board in fulfilling its mandate, the Water Quality Branch conducts systematic water quality sampling in the international portion of the river. The samples are analyzed for physical parameters, major ions, nutrients and trace metals.

The Water Quality Branch in cooperation with the United States Geological Survey (USGS) also receives data for temperature, specific conductance, pH and dissolved oxygen on a real-time basis via satellite retransmission from an automatic water quality monitor (AWQM) at Milltown, Maine.

These data are used in the development of water quality objectives for the St. Croix River with particular reference to the

passage of Atlantic Salmon (Salmo salar). To date, only objectives for dissolved oxygen and pH have been established (5.0 mg/L and 60% saturation and 6.0 to 8.5 pH units respectively). By 1978, improvements in the water quality of the lower 14 km stretch of the river has made possible the passage of Atlantic Salmon, and in 1980 a re-introduction program was started.

This report presents the water quality data from six sampling stations in the St. Croix River Basin during the period from June, 1986 to September, 1987. Also included are the AWQM data for the period of September 1986 to December 1987.

Previous St. Croix River Water Quality reports include Clair (1980), Lockerbie and Cullen (1981), Howell and Lockerbie (1983), Howell and Lockerbie (1984), Howell (1985) and Lockerbie (1987).

2. METHODOLOGY

The Water Quality Branch sampled the St. Croix River on nine occasions from June 26, 1986 to Sept. 10, 1987 at three sites in the river basin - Kellyland, Woodland, and Milltown. Samples were also collected from Forest City Stream, Diggity Stream and from the St. Croix River at St. Croix, N.B. on two occasions in June and August.

The Forest City Stream, Diggity Stream and St. Croix River at St. Croix and Kellyland stations are considered to be pristine and indicative of background water quality. The Woodland station is located 200 m below the Georgia-Pacific Pulp Mill effluent outfall and serves to characterize the chemical composition of the effluent after a slight dilution by river water.

The Milltown station, 14 km below Woodland provides information on the river water quality after assimilation and dilution of the pulp mill effluent by the river.

Sampling station location descriptions and National Water Quality Data Bank (NAQUADAT) numbers are presented in Table 1 and are plotted in Figure 1.

The Water Quality Branch sampling was conducted as outlined in "Sampling for Water Quality" manual (WQB, 1983) and the analytical methods employed are described in the NAQUADAT Dictionary (WQB, 1986). A list of selected water quality parameters, their NAQUADAT

codes and detection limits are presented in Table 2. Water Quality Branch, Atlantic Region quality control procedures require that at least 15% of the samples must be collected in triplicate and the preservation blanks must be prepared for each sampling occasion. The results of these QA/QC procedures are not discussed but data are presented in Table 8.

The hourly data from the USGS AWQM at Milltown was obtained by using a Labarge GOES satellite retransmission platform. For this report, data are listed in daily format with minimum, maximum and mean. In addition to the measured parameters, dissolved oxygen saturation has been calculated and included in the tables.

3. RESULTS AND DISCUSSION

Physical parameter and major ion concentrations, nutrient and metals data are presented in Tables 3-5. Major ion equivalent concentrations are provided in Table 6.

3.1 Background Water Quality

In addition to the regular monitoring station at Kellyland, three additional stations were sampled in the upper basin as part of a special survey and although the data are not discussed specifically, they are included in Table 7. Forest City Stream, Diggity Stream and the St. Croix River at St. Croix represent the water quality in this reach of the basin which receives little anthropogenic input.

Kellyland is 15 km above Woodland and is representative of background water quality conditions. Water temperatures ranged from 0.8°C on Dec. 19, 1986 to 21.2°C on July 24, 1987. Dissolved Oxygen ranged from 7.7 mg/L (86% saturation) on July 24, 1987 to 13.9 mg/L (99% saturation) on Dec. 19, 1986. pH ranged from 6.5 to 6.8 for the sampling period.

The waters of the St. Croix River are dilute, with specific conductance ranging from 24 to 32 μS/cm. The dominant cation is calcium (0.145-0.205 meq/L) followed by sodium (0.061-0.069 meq/L), magnesium (0.048-0.063 meq/L) and potassium (0.007-0.010 meq/L). The

anions are dominated by bicarbonate (0.120-0.168 meq/L), followed by sulphate (0.065-0.092 meq/L) and chloride (0.045-0.056 meq/L).

The sum of constituents ranged from 15.6 to 20.7 mg/L with a median value of 19.1 mg/L. Concentrations of copper, lead, mercury and cadmium were below the limit of detection on all occasions. Iron and manganese levels were 2 to 3 times the detection limit ranging from 0.12 to 0.19 and 0.01 to 0.05 mg/L respectively. Aluminum concentrations ranged from 0.030 to 0.320 mg/L.

Woodland

This water quality sampling station is located on the United States side of the river approximately 200 metres below the point of Georgia-Pacific Mill effluent outfall. Samples are collected in the effluent plume and serve to characterize the chemical composition of the effluent after slight dilution by river water.

The temperature of the St. Croix River at Woodland is primarily due to the effluent temperature and thus remains high throughout the year (14.5 to 30.8°C). The lowest dissolved oxygen concentration recorded was 5.8 mg/L or 73 percent saturation on June 11, 1987. pH was slightly higher (7.3-7.8 units) at Woodland as compared to Kellyland due to the alkaline nature of the Kraft effluent.

The specific conductance at Woodland was approximately 70 times higher than the background station. This is reflected by a much higher sum of the constituents which showed a 80 fold increase.

There has also been a change in the dominance of major ions. Whereas at Kellyland, the cation and anion dominance was Ca>Na>Mg>K and HCO_3>SO_4>Cl respectively, sodium strongly dominates the cations followed by Ca>K>Mg. Similarly chloride dominates the anions with sulphate and bicarbonate nearly proportional. This shift in ion dominance is a result of their extensive use in the Kraft process.

Mercury and cadmium were below or at their respective detection limits while copper (0.002 to 0.008 mg/L) and lead (0.002 to 0.007 mg/L) were slightly above the detection limit. Iron concentrations were slightly elevated (0.46-0.82 mg/L) while manganese values were about two orders of magnitude greater than those in samples from Kellyland. Extractable aluminum concentrations were very high (0.31 to 3.8 mg/L) which is probably from the use of alum in process water treatment in the mill.

The organic nature of the Kraft mill effluent is reflected in elevated concentrations of nutrients. Dissolved organic carbon values which ranged from 48 to 93 mg/L in 1986/87 were more than 15 percent lower than those reported by Lockerbie (1987). Total nitrogen (3.4 to 7.1 mg/L) and nitrate/nitrite (3.4 to 7.1 mg/L) were consistently higher than previous reports. Most nitrogen was in the form of available nitrite/nitrate.

Total phosphorus determinations are not normally made at this station due to analytical interferences.

Milltown

Fourteen kilometres downstream from Woodland at Milltown, the effluent plume appears to be incorporated into the river water and there is little indication of any horizontal differentiation in water quality (Howell and Lockerbie 1983).

Water temperatures (0.2 to 22.9°C) were similar to the background station at Kellyland. Apparent color at Milltown ranges from 20-90 Hazen units which represents an approximate 2-fold increase over the levels at Kellyland. Dissolved oxygen exceeded the water quality objectives of 5.0 mg/L and 60% saturation on all occasions. It ranged from 6.7 to 12.8 mg/L or 70 to 95 percent saturation. The lowest dissolved oxygen recorded (6.7 mg/L and 70% sat.) was on June 11, 1987. The lowest value at Woodland was also recorded on this date.

Major ion chemistry at Milltown reflects a mixture of the background calcium bicarbonate dominated waters of the St. Croix River and the sodium chloride dominated pulp mill effluent. The specific conductance values were slightly variable ranging from 44 to 140 μS/cm. Sodium was the dominant cation over calcium on all but one occasion (Sept. 10, 1987) when the specific conductance was very

low. This sampling period coincided with the annual maintenance shutdown at the mill which took place from Aug. 30 to Sept. 12. Chloride was the dominant anion except on the above date when it was exceeded by bicarbonate.

Copper, lead, mercury and cadmium were not detected at Milltown. Iron, manganese and aluminum were slightly above levels reported for the background station at Kellyland, the increases presumably the result of the high levels observed in the pulp mill effluent.

Nutrient concentrations at Milltown are slightly higher than those observed at Kellyland. Total phosphorus ranged from 0.014 to 0.052 mg/L, nitrite/nitrate from <0.01 to 0.16 mg/L, total nitrogen from 0.10 to 0.29 mg/L and dissolved organic carbon ranged from 5.8 to 11.0 mg/L.

Milltown AWQM Data

A comprehensive treatment of the AWQM data was undertaken by Lockerbie (1987) for the period from February 7, 1986 to Aug. 31, 1986. The provisional data found in the Appendix, (September 1986 to December 1987) is for the most part, provided for information only. A brief overview with respect to downtime, and data versus water quality objectives is provided.

Due to operational problems, the AWQM did not operate for the months of December, 1986 and February, 1987. On other occasions,

downtimes of shorter duration were observed from December, 1986 to May, 1987. The data capture in Moncton was 80% of the theoretical capability. The monitor operated near 100% from June to December 1987.

Dissolved Oxygen

The daily minimum dissolved oxygen concentrations did not fall below the water quality objectives of 5.0 mg/L and 60% saturation during this period of record.

Historically, dissolved oxygen levels have been their lowest during the period from July 1 to Sept. 30 primarily due to warm water temperatures and low flows. During this report period, the minimum dissolved oxygen concentration was reported on August 5 with levels of 5.6 mg/L and 68% saturation. The daily mean values for August 5 were 6.9 and 86% respectively (Figures 2 and 3).

The low dissolved oxygen levels shown in the provisional data for the period Jan. 28-30 and April 2 to 11 have been attributed to a frozen pump and restricted pump intake during high flows respectively.

pH

The water quality objective for pH in the St. Croix River is 6.0 to 8.5. The pH ranged from 6.2 (daily minimum) on December 5 and 6, 1987 to 7.5 (daily maximum) on September 23, 1987 with the exception of a few questionable minimum (instantaneous) readings. Erroneous pH values were also experienced for the periods and reasons discussed under dissolved oxygen.

4. CONCLUSIONS

During the study period, from June 1986 to September 1987, the sampling sites were visited on 9 occasions. The water quality objectives for dissolved oxygen (5.0 mg/L and 60% saturation) and pH (6.0 to 8.5 pH units) were met at all sites.

The mean dissolved organic carbon levels at Woodland were 15 percent lower than those reported in the 1985/86 study (Lockerbie, 1987) however total nitrogen and nitrate levels were consistently higher in 1986/87.

AWQM provisional data for September 1986 to December 1987 have been appended for information. With the exception of a few questionable minimum (instantaneous) pH values the AWQM data also met the objectives.

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6. TABLES AND FIGURES

TABLE 1: NAQUADAT NUMBERS AND SITE DESCRIPTIONS OF STATIONS SAMPLED ON THE ST. CROIX RIVER

NAQUADAT No.	Site Description
00NB01AR0011	Forest City Stream (Grand Lake Outlet) at hwy 122, Forest City.
00NB01AR0029	Diggity Stream at hwy 630.
00NB01AR0002	St. Croix River at St. Croix - Vanceboro International Bridge.
00NB01AR0013	St. Croix River at Kellyland
00NB01AR0014	St. Croix River, 200 m below Woodland Mill on the U.S. side of the river.
00NB01AR0001	St. Croix River at Milltown hwy bridge - mid-river.

TABLE 2: A LIST OF PARAMETERS, PARAMETER CODES AND DETECTION LIMITS

Parameter	NAQUADAT Code	Detection Limit
Water Temperature	02061S	
Water Temperature	02065S	—
Dissolved Oxygen (meter)	08102S	—
Specific Cond. (field)	02042S	2 µS/cm
pH (field)	10301F	-
Specific Cond. (lab.)	02041L	0.2 µS/cm
pH (lab)	10301L	—
Colour	02011L	—
Turbidity	02073L	—
Calcium	20110L	0.040 mg/L
Sodium	11103L	0.10 mg/L
Potassium	19103L	0.10 mg/L
Magnesium	12107L	0.005 mg/L
Chloride	17209L	0.100 mg/L
Sulphate	16304L	1.00 mg/L
Total Alkalinity	10101L	0.5 mg/L
Extractable Iron	26304P	0.050 mg/L
Extractable Manganese	25304P	0.010 mg/L
Extractable Copper	29305P	0.001 mg/L
Extractable Lead	82302P	0.010 mg/L
Extractable Mercury	80315P	0.02 µg/L
Extractable Aluminum	13305P	0.002 mg/L
Extractable Cadmium	48302P	0.001 mg/L
Total Phosphorus	15413P	0.005 mg/L
Total Nitrogen	07601L	0.025 mg/L
Nitrate + Nitrite N.	07110L	0.002 mg/L
Dissolved Organic Carbon	06107L	0.4 mg/L

TABLE 3: PHYSICAL PARAMETERS AND MAJOR ION CONCENTRATIONS (MG/L)
FOR THE ST. CROIX RIVER STATIONS AT
KELLYLAND, WOODLAND AND MILLTOWN

0	1 STATION	2 SAMPLING DATE	3 SAMPLING TIME	4 WATER TEMP	5 FIELD SP. COND.	6 LAB SP.COND	7 FIELD PH	8 LAB PH	9 D.O. MG/L	10 D.O. % SAT	11 COLOUR
1	00NB01AR0013	26-JUN-86	1400	20.30	31.0	30		6.7	9.0	99	20
2	00NB01AR0013	28-AUG-86	1320	17.80	32.0	30	7.4	6.6	8.6	91	40
3	00NB01AR0013	13-NOV-86	1535	3.30	32.0	33		6.8	13.7	102	35
4	00NB01AR0013	13-NOV-86	1540	3.30	32.0	34		6.9	13.7	102	35
5	00NB01AR0013	13-NOV-86	1545	3.30	32.0	34		6.8	13.7	102	35
6	00NB01AR0013	19-DEC-86	910	0.80	28.0	34		6.5	13.9	99	40
7	00NB01AR0013	19-DEC-86	915	0.80	28.0	34		6.5	13.9	99	40
8	00NB01AR0013	19-DEC-86	920	0.80	28.0	34		6.5	13.9	99	40
9	00NB01AR0013	29-JAN-87	1315	0.05		36		6.7			30
10	00NB01AR0013	23-APR-87	1445	2.60	26.0	28		6.6	10.0	75	45
11	00NB01AR0013	11-JUN-87	945	16.40	30.4	32	7.3	6.7	9.8	100	40
12	00NB01AR0013	24-JUL-87	830	21.20	27.0	32		6.8	7.7	86	35
13	00NB01AR0013	10-SEP-87	1300	19.00	24.0	30		6.8	9.4	100	10
14											
15	00NB01AR0014	26-JUN-86	1500	27.80	2600.0	2590		7.4	6.8	86	61000.
16	00NB01AR0014	28-AUG-86	1500	25.50	1640.0	1860	8.1	7.8	7.7	99	61000.
17	00NB01AR0014	13-NOV-86	1435	19.80	2400.0	2450		7.5	8.6	93	61000.
18	00NB01AR0014	19-DEC-86	1630	14.50	2200.0	2540		7.5	10.1	98	61000.
19	00NB01AR0014	29-JAN-87	1510	15.00	2500.0	2540		7.4			61000.
20	00NB01AR0014	29-JAN-87	1515	15.00	2500.0	2480		7.4			61000.
21	00NB01AR0014	29-JAN-87	1520	15.00	2500.0	2510		7.4			61000.
22	00NB01AR0014	23-APR-87	1600	21.40	2600.0	2700			8.2	92	61000.
23	00NB01AR0014	11-JUN-87	1000	27.60	2200.0	2200	7.6	7.5	5.8	73	61000.
24	00NB01AR0014	11-JUN-87	1005	27.60	2200.0	2200	7.6	7.4	5.8	73	61000.
25	00NB01AR0014	11-JUN-87	1010	27.60	2200.0	2200	7.6	7.7	5.8	73	61000.
26	00NB01AR0014	24-JUL-87	730	30.80	2300.0	2350		7.3	6.7	89	61000.
27	00NB01AR0014	10-SEP-87	1330	19.50	240.0	1790		7.6	8.2	88	800
28											
29	00NB01AR0001	26-JUN-86	1535	18.70	140.0	140		6.9	8.2	87	80
30	00NB01AR0001	26-JUN-86	1537	18.70	140.0	140		6.9	8.2	87	90
31	00NB01AR0001	26-JUN-86	1540	18.70	140.0	140		6.8	8.2	87	90
32	00NB01AR0001	28-AUG-86	1515	18.20	60.0	57	7.3	6.4	8.5	89	60
33	00NB01AR0001	13-NOV-86	1240	5.00	128.0	127		7.0	12.2	95	70
34	00NB01AR0001	19-DEC-86	1000	0.30	68.0	71		6.6	12.8	89	60
35	00NB01AR0001	29-JAN-87	1550	0.20		116		6.8			75
36	00NB01AR0001	24-APR-87	900	11.00	72.0	68		6.5	9.5	86	60
37	00NB01AR0001	24-APR-87	904	11.00	72.0	69		6.4	9.5	86	60
38	00NB01AR0001	24-APR-87	902	11.00	72.0	69		6.4	9.5	86	60
39	00NB01AR0001	11-JUN-87	1030	16.70	92.0	87	7.2	7.0	6.7	70	90
40	00NB01AR0001	24-JUL-87	1015	22.90	130.0	126		6.8	7.0	80	80
41	00NB01AR0001	10-SEP-87	1400	18.60	44.0	42		6.8	7.6	81	20
42	00NB01AR0001	10-SEP-87	1405	18.60	44.0	42		6.8	7.6	81	20
43	00NB01AR0001	10-SEP-87	1410	18.60	44.0	42		6.8	7.6	81	20

TABLE 3: PHYSICAL PARAMETERS AND MAJOR ION CONCENTRATIONS (MG/L)
FOR THE ST. CROIX RIVER STATIONS AT
KELLYLAND, WOODLAND AND MILLTOWN

0	12 TURBIDITY JTU	13 T. ALKAL. MG/L	14 NA MG/L	15 CA MG/L	16 K MG/L	17 MG MG/L	18 CL-IC MG/L	19 SO4 MG/L	20 SO4-IC MG/L	21 RESIDUE MG/L	22
1	0.7	6.2	1.5	3.2	0.33	0.58	1.8	3.28		L10.	16.89
2	0.8	6.6	1.5	3.4	0.33	0.71	1.6	3.50	3.0	L10.	17.64
3	1.5	7.4	1.4	3.8	0.27	0.73	2.0	3.70	3.2	L10.	38.60
4	1.5	7.5	1.4	3.8	0.27	0.73	1.9	3.70	3.2	L10.	19.30
5	1.5	7.5	1.4	3.8	0.27	0.73	1.9	3.70	3.2	L10.	19.30
6	0.7	6.3	1.6	3.8	0.38	0.74	2.0	4.40	3.6	L10.	19.22
7	0.8	6.3	1.6	3.7	0.39	0.74	2.0	4.40	3.6	L10.	19.13
8	0.8	6.3	1.6	3.7	0.36	0.74	1.9	4.40	3.6	L10.	19.00
9	1.0	7.9	1.5	4.1	0.34	0.76	1.9	4.20	3.6	L10.	20.70
10	0.9	4.8	1.5	2.8	0.40	0.60	1.9	3.60	2.9	L10.	15.60
11	1.7	8.4	1.5	3.7	0.29	0.69	1.7	3.40	2.8	L10.	19.68
12	1.4	7.0	1.5	3.4	0.34	0.66	1.7	3.40	2.7	L10.	18.00
13	0.5	6.0	1.6	2.9	0.34	0.60	1.7	3.10	3.0	L10.	16.24
14											
15	53.0	238.6	456.0	69.0	19.00	5.90	560.0	232.00	215.0	124	1580.50
16	55.0	166.7	349.0	52.0	17.10	4.60	402.0	134.00	115.0	63	1125.40
17	5.1	250.0	450.0	62.0	25.00	5.40	570.0	225.00	210.0	39	1587.40
18	3.8	260.7	500.0	61.0	27.00	5.20		265.00	258.0	36	1650.90
19	9.5	267.3	500.0	58.0	20.00	5.20	536.0	220.00	206.0	82	1606.50
20	9.6	260.6	500.0	57.0	20.00	5.20	528.0	215.00	201.0	74	1585.80
21	9.4	263.2	500.0	58.0	21.00	5.10	536.0	215.00	202.0	73	1598.30
22	10.0		470.0	69.0	22.00	5.70	555.0	250.30	213.0	85	1622.00
23	34.0	206.2	424.0	64.0	21.90	5.20	460.0	236.00	240.0	73	1417.30
24	34.0	207.7	412.0	64.0	22.30	5.20	444.0	259.50	230.0	81	1414.70
25	33.0	210.6	402.0	64.0	21.20	5.20	460.0	252.20	230.0	77	1415.20
26	22.0	222.3	440.0	63.0	25.00	5.10	433.0	256.00	250.0	39	1444.40
27	23.0	187.1	319.0	42.8	25.00	3.80	300.0	197.00	214.0	21	1074.70
28											
29	2.9	17.4	19.3	5.5	1.10	0.88	21.6	12.30	10.8	L10.	78.08
30	4.1	15.8	19.3	5.5	1.10	0.88	23.1	11.07	10.9	L10.	76.75
31	3.5	15.7	19.0	6.5	1.20	0.87	23.2	11.23	10.9	L10.	77.70
32	2.2	8.8	5.4	4.1	0.57	0.74	6.7	4.90	4.5	L10.	31.21
33	2.6	15.4	16.6	5.7	1.20	0.87	19.6	11.50	10.7	L10.	70.87
34	1.2	9.1	7.7	4.3	0.70	0.81	9.4	7.60	7.1	L10.	39.61
35	3.1	15.2	15.2	5.7	0.97	0.89	18.6	10.10	10.0	L10.	66.66
36	2.4	7.9	8.4	3.7	0.69	0.68	9.3	7.10	5.8	L10.	37.77
37	2.1	8.2	8.4	3.7	0.66	0.67	9.5	6.60	6.0	L10.	37.73
38	2.1	7.9	8.7	3.7	0.72	0.67	9.4	7.10	6.0	L10.	38.19
39	2.7	11.6	10.2	4.9	0.75	0.82	11.5	8.70	7.6	L10.	48.47
40	2.4	15.5	16.4	5.7	1.10	0.87	18.0	13.00	11.2	L10.	70.57
41	0.8	8.3	3.1	3.5	0.47	0.69	3.2	4.20	4.1	L10.	23.46
42	0.8	8.3	3.2	3.5	0.47	0.70	3.1	4.00	4.1		23.27
43	0.7	8.2	3.1	3.5	0.47	0.69	3.0	4.10	4.1		23.06

TABLE 4: NUTRIENT CONCENTRATIONS (MG/L) FOR ST. CROIX RIVER STATIONS AT KELLYLAND, WOODLAND AND MILLTOWN

0	1 STATION	2 SAMPLING DATE	3 SAMPLING TIME	4 T. PHOS MG/L	5 NO3+NO2 MG/L	6 T. NITROGEN MG/L	7 D.O.C. MG/L
1	00NB01AR0013	26-JUN-86	1400	0.015	L.01	0.12	5.7
2	00NB01AR0013	28-AUG-86	1320	0.010	0.03	0.14	7.7
3	00NB01AR0013	13-NOV-86	1535	0.011	0.02	0.11	8.3
4	00NB01AR0013	13-NOV-86	1540	0.010	L.01	0.11	8.5
5	00NB01AR0013	13-NOV-86	1545	0.008	0.03	0.14	7.0
6	00NB01AR0013	19-DEC-86	910	0.010	L.01	0.14	8.2
7	00NB01AR0013	19-DEC-86	915	0.007	L.01	0.11	7.6
8	00NB01AR0013	19-DEC-86	920	0.010	0.06	0.16	7.9
9	00NB01AR0013	29-JAN-87	1315	0.008	L.01	0.12	6.7
10	00NB01AR0013	23-APR-87	1445	0.009	L.01	0.12	5.6
11	00NB01AR0013	11-JUN-87	945	0.018	0.02	0.12	6.6
12	00NB01AR0013	24-JUL-87	830	0.014	L.01	L.1	7.4
13	00NB01AR0013	10-SEP-87	1300	0.008	L.01	L.1	4.8
14							
15	00NB01AR0014	26-JUN-86	1500		5.50	6.80	76.0
16	00NB01AR0014	28-AUG-86	1500		5.20	4.80	53.0
17	00NB01AR0014	13-NOV-86	1435		5.40	5.40	85.0
18	00NB01AR0014	18-DEC-86	1630		3.40	3.50	91.0
19	00NB01AR0014	29-JAN-87	1510		4.80	5.20	87.0
20	00NB01AR0014	29-JAN-87	1515		4.50	5.40	93.0
21	00NB01AR0014	29-JAN-87	1520		4.50	5.30	89.0
22	00NB01AR0014	23-APR-87	1600		4.20	5.50	81.0
23	00NB01AR0014	11-JUN-87	1000			3.50	81.0
24	00NB01AR0014	11-JUN-87	1005			3.40	82.0
25	00NB01AR0014	11-JUN-87	1010			3.50	80.0
26	00NB01AR0014	24-JUL-87	730	0.500	4.00	3.50	92.0
27	00NB01AR0014	10-SEP-87	1330		7.10	7.10	48.0
28							
29	00NB01AR0001	26-JUN-86	1535	0.052	0.12	0.22	8.8
30	00NB01AR0001	26-JUN-86	1537	0.051	0.16	0.29	8.6
31	00NB01AR0001	26-JUN-86	1540	0.052	0.10	0.21	8.8
32	00NB01AR0001	28-AUG-86	1515	0.027	0.03	0.19	9.4
33	00NB01AR0001	13-NOV-86	1240	0.036	0.10	0.18	10.0
34	00NB01AR0001	19-DEC-86	1000	0.016	0.13	0.26	8.4
35	00NB01AR0001	29-JAN-87	1550	0.032	0.04	0.18	8.2
36	00NB01AR0001	24-APR-87	900	0.027	0.04	0.14	6.5
37	00NB01AR0001	24-APR-87	904	0.025	L.01	0.13	6.6
38	00NB01AR0001	24-APR-87	902	0.025	0.01	0.14	6.6
39	00NB01AR0001	11-JUN-87	1030	0.037	0.20	0.20	8.2
40	00NB01AR0001	24-JUL-87	1015	0.037	0.02	0.10	11.0
41	00NB01AR0001	10-SEP-87	1400	0.014	0.09	0.16	6.0
42	00NB01AR0001	10-SEP-87	1405	0.016	0.09	0.15	5.8
43	00NB01AR0001	10-SEP-87	1410	0.015	L.01	0.11	5.8

TABLE 5: METAL CONCENTRATIONS (MG/L) FOR ST. CROIX RIVER
STATIONS AT KELLYLAND, WOODLAND AND MILLTOWN

0	1 STATION	2 SAMPLING DATE	3 SAMPLING TIME	4 FE-EXT MG/L	5 MN-EXT MG/L	6 CU-EXT MG/L	7 PB-EXT MG/L	8 AL-EXT MG/L	9 HG-EXT MG/L	10 CD-EXT MG/L
1	00NB01AR0013	26-JUN-86	1400	0.12	0.03	L.002	L.002	0.320		L.001
2	00NB01AR0013	28-AUG-86	1320	0.16	0.02	L.002	L.002	0.041	L.02	L.001
3	00NB01AR0013	13-NOV-86	1535	0.17	0.02	L.002	L.002	0.050	L.02	L.001
4	00NB01AR0013	13-NOV-86	1540	0.16	0.02	L.002	L.002	0.050	L.02	L.001
5	00NB01AR0013	13-NOV-86	1545	0.16	0.02	L.002	L.002	0.050	L.02	L.001
6	00NB01AR0013	19-DEC-86	910	0.14	0.03	L.002	L.002	0.061	L.02	L.001
7	00NB01AR0013	19-DEC-86	915	0.14	0.01	L.002	L.002	0.063	L.02	L.001
8	00NB01AR0013	19-DEC-86	920	0.14	0.01	L.002	L.002	0.062	L.02	L.001
9	00NB01AR0013	29-JAN-87	1315	0.17	0.03	L.002	L.002	0.044	L.02	L.001
10	00NB01AR0013	23-APR-87	1445	0.13	0.01	L.002	L.002	0.077	L.02	L.001
11	00NB01AR0013	11-JUN-87	945	0.19	0.04	L.002	L.002	0.080	L.02	L.001
12	00NB01AR0013	24-JUL-87	830	0.19	0.05	L.002	L.002	0.030	L.02	L.001
13	00NB01AR0013	10-SEP-87	1300	0.14	0.02	L.002	L.002	0.032	L.02	L.001
14										
15	00NB01AR0014	26-JUN-86	1500	0.82	2.90	0.008	0.006	0.310		0.003
16	00NB01AR0014	28-AUG-86	1500	0.51	2.20	0.006	0.004		L.02	0.001
17	00NB01AR0014	13-NOV-86	1435	0.54	2.50	0.002	0.002		0.02	0.001
18	00NB01AR0014	18-DEC-86	1630	0.56	2.10				L.02	
19	00NB01AR0014	29-JAN-87	1510	0.59	2.80	0.003	0.004	3.800	L.02	0.001
20	00NB01AR0014	29-JAN-87	1515	0.53	2.80	0.003	0.003	3.800	L.02	0.001
21	00NB01AR0014	29-JAN-87	1520	0.54	2.90	0.003	0.003	3.800	L.02	0.001
22	00NB01AR0014	23-APR-87	1600	0.67	2.40			3.200	L.02	
23	00NB01AR0014	11-JUN-87	1000	0.60	2.50	0.006	0.006	3.000	L.02	L.001
24	00NB01AR0014	11-JUN-87	1005	0.46	2.30	0.006	0.007	3.000	L.02	L.001
25	00NB01AR0014	11-JUN-87	1010	0.61	2.40	0.006	0.006	3.000	L.02	L.001
26	00NB01AR0014	24-JUL-87	730	0.55	2.40	0.005	0.004		L.02	L.001
27	00NB01AR0014	10-SEP-87	1330	0.62	1.50	0.004	0.004	3.000	0.02	0.001
28										
29	00NB01AR0001	26-JUN-86	1535	0.22	0.13	L.002	L.002	0.310		L.001
30	00NB01AR0001	26-JUN-86	1537	0.23	0.13	L.002	L.002	0.160		L.001
31	00NB01AR0001	26-JUN-86	1540	0.23	0.13	L.002	L.002	0.190		L.001
32	00NB01AR0001	28-AUG-86	1515	0.25	0.06	L.002	L.002	0.093	L.02	L.001
33	00NB01AR0001	13-NOV-86	1240	0.19	0.07	L.002	L.002	0.160	L.02	L.001
34	00NB01AR0001	19-DEC-86	1000	0.18	0.04	L.002	L.002	0.100	L.02	L.001
35	00NB01AR0001	29-JAN-87	1550	0.22	0.08	L.002	L.002	0.140	L.02	L.001
36	00NB01AR0001	24-APR-87	900	0.18	0.04	L.002	L.002	0.130	L.02	L.001
37	00NB01AR0001	24-APR-87	904	0.13	0.04	L.002	L.002	0.110	L.02	L.001
38	00NB01AR0001	24-APR-87	902	0.14	0.04	L.002	L.002	0.130	L.02	L.001
39	00NB01AR0001	11-JUN-87	1030	0.27	0.09	L.002	L.002	0.110	L.02	L.001
40	00NB01AR0001	24-JUL-87	1015	0.28	0.09	L.002	L.002	0.085	L.02	L.001
41	00NB01AR0001	10-SEP-87	1400	0.19	0.05	L.002	L.002	0.050	L.02	L.001
42	00NB01AR0001	10-SEP-87	1405	0.18	0.05	L.002	L.002	0.053	L.02	L.001
43	00NB01AR0001	10-SEP-87	1410	0.22	0.05	L.002	L.002	0.048	L.02	L.001

TABLE 6: MAJOR ION EQUIVALENT CONCENTRATIONS (MEQ/L)
FOR THE ST. CROIX RIVER STATIONS AT
KELLYLAND, WOODLAND AND MILLTOWN

0	1 STATION	2 SAMPLING DATE	3 SAMPLING TIME	4 CA MEQ/L	5 MG MEQ/L	6 NA MEQ/L	7 K MEQ/L	8 CL MEQ/L	9 SO4 MEQ/L	10 HCO3 MEQ/L
1	00NB01AR0013	26-JUN-86	1400	0.15968	0.047711	0.06525	0.008438	0.050778	0.068290	0.123876
2	00NB01AR0013	28-AUG-86	1320	0.16966	0.058405	0.06525	0.008438	0.045136	0.072870	0.131868
3	00NB01AR0013	13-NOV-86	1535	0.18962	0.060050	0.06090	0.006904	0.056420	0.077034	0.147852
4	00NB01AR0013	13-NOV-86	1540	0.18962	0.060050	0.06090	0.006904	0.053599	0.077034	0.149850
5	00NB01AR0013	13-NOV-86	1545	0.18962	0.060050	0.06090	0.006904	0.053599	0.077034	0.149850
6	00NB01AR0013	19-DEC-86	910	0.18962	0.060872	0.06960	0.009717	0.056420	0.091608	0.125874
7	00NB01AR0013	19-DEC-86	915	0.18463	0.060872	0.06960	0.009972	0.056420	0.091608	0.125874
8	00NB01AR0013	19-DEC-86	920	0.18463	0.060872	0.06960	0.009205	0.053599	0.091608	0.125874
9	00NB01AR0013	29-JAN-87	1315	0.20459	0.062518	0.06525	0.008694	0.053599	0.087444	0.157842
10	00NB01AR0013	23-APR-87	1445	0.13972	0.049356	0.06525	0.010228	0.053599	0.074952	0.095904
11	00NB01AR0013	11-JUN-87	945	0.18463	0.056759	0.06525	0.007415	0.047957	0.070788	0.167832
12	00NB01AR0013	24-JUL-87	830	0.16966	0.054292	0.06525	0.008694	0.047957	0.070788	0.139860
13	00NB01AR0013	10-SEP-87	1300	0.14471	0.049356	0.06960	0.008694	0.047957	0.064542	0.119880
14										
15	00NB01AR0014	26-JUN-86	1500	3.44310	0.485334	19.83600	0.485830	15.797600	4.830240	4.767228
16	00NB01AR0014	28-AUG-86	1500	2.59480	0.378396	15.18150	0.437247	11.340420	2.789880	3.330666
17	00NB01AR0014	13-NOV-86	1435	3.09380	0.444204	19.57500	0.639250	16.079700	4.684500	4.995000
18	00NB01AR0014	18-DEC-86	1630	3.04390	0.427752	21.75000	0.690390		5.517300	5.208786
19	00NB01AR0014	29-JAN-87	1510	2.89420	0.427752	21.75000	0.511400	15.120560	4.580400	5.340654
20	00NB01AR0014	29-JAN-87	1515	2.84430	0.427752	21.75000	0.511400	14.894880	4.476300	5.206788
21	00NB01AR0014	29-JAN-87	1520	2.89420	0.419526	21.75000	0.536970	15.120560	4.476300	5.258736
22	00NB01AR0014	23-APR-87	1600	3.44310	0.468882	20.44500	0.562540	15.656550	5.211246	
23	00NB01AR0014	11-JUN-87	1000	3.19360	0.427752	18.44400	0.559983	12.976600	4.913520	4.119876
24	00NB01AR0014	11-JUN-87	1005	3.19360	0.427752	17.92200	0.570211	12.525240	5.402790	4.149846
25	00NB01AR0014	11-JUN-87	1010	3.19360	0.427752	17.48700	0.542084	12.976600	5.250804	4.207788
26	00NB01AR0014	24-JUL-87	730	3.14370	0.419526	19.14000	0.639250	12.214930	5.329920	4.441554
27	00NB01AR0014	10-SEP-87	1330	2.13572	0.312588	13.87650	0.639250	8.463000	4.101540	3.738258
28										
29	00NB01AR0001	26-JUN-86	1535	0.27445	0.072389	0.83955	0.028127	0.609336	0.256086	0.347652
30	00NB01AR0001	26-JUN-86	1537	0.27445	0.072389	0.83955	0.028127	0.651651	0.230477	0.315684
31	00NB01AR0001	26-JUN-86	1540	0.32435	0.071566	0.82650	0.030684	0.654472	0.233809	0.313686
32	00NB01AR0001	28-AUG-86	1515	0.20459	0.060872	0.23490	0.014575	0.189007	0.102018	0.175824
33	00NB01AR0001	13-NOV-86	1240	0.28443	0.071566	0.72210	0.030684	0.552916	0.239430	0.307692
34	00NB01AR0001	19-DEC-86	1000	0.21457	0.066631	0.33495	0.017899	0.265174	0.158232	0.181818
35	00NB01AR0001	29-JAN-87	1550	0.28443	0.073211	0.66120	0.024803	0.524706	0.210282	0.303696
36	00NB01AR0001	24-APR-87	900	0.18463	0.055937	0.36540	0.017643	0.262353	0.147822	0.157842
37	00NB01AR0001	24-APR-87	904	0.18463	0.055114	0.36540	0.016876	0.267995	0.137412	0.163836
38	00NB01AR0001	24-APR-87	902	0.18463	0.055114	0.37845	0.018410	0.265174	0.147822	0.157842
39	00NB01AR0001	11-JUN-87	1030	0.24451	0.067453	0.44370	0.019178	0.324415	0.181134	0.231768
40	00NB01AR0001	24-JUL-87	1015	0.28443	0.071566	0.71340	0.028127	0.507780	0.270660	0.309690
41	00NB01AR0001	10-SEP-87	1400	0.17465	0.056759	0.13485	0.012018	0.090272	0.087444	0.165834
42	00NB01AR0001	10-SEP-87	1405	0.17465	0.057582	0.13920	0.012018	0.087451	0.083280	0.165834
43	00NB01AR0001	10-SEP-87	1410	0.17465	0.056759	0.13485	0.012018	0.084630	0.085362	0.163836

TABLE 7: WATER QUALITY DATA FOR ST. CROIX RIVER AT ST. CROIX
FOREST CITY STREAM AND DIGGITY STREAM

0	1 STATION	2 SAMPLING DATE	3 SAMPLING TIME	4 SUBID	5 WATER TEMP	6 FIELD SP. COND.	7 LAB SP.COND	8 FIELD PH	9 LAB PH	10 D.O. MG/L	11 D.O. %SAT.	12 COLOUR
1	00NB01AR0002	26-JUN-86	1150	145	17.5	27	28		6.6	9.5	99	15
2	00NB01AR0002	28-AUG-86	1210	145	17.5	30	29	7.4	6.7	9.0	94	10
3												
4	00NB01AR0011	26-JUN-86	920	145	16.8	36	35		6.9	9.6	99	L5.
5	00NB01AR0011	28-AUG-86	954	T145	17.3	36	36	7.8	6.7	9.4	98	L5.
6	00NB01AR0011	28-AUG-86	956	T145	17.3	36	35	7.8	6.9	9.4	98	L5.
7	00NB01AR0011	28-AUG-86	950	T145	17.3	36	35	7.8	6.8	9.4	98	L5.
8												
9	00NB01AR0029	26-JUN-86	1130	145	18.2	27	28		6.4	9.4	99	50
10	00NB01AR0029	28-AUG-86	1140	145	17.7	28	27	7.1	6.6	9.3	98	30

0	13 TURBIDITY JTU	14 T. ALKAL. MG/L	15 NA MG/L	16 CA MG/L	17 K MG/L	18 MG MG/L	19 CL-IC MG/L	20 SO4 MG/L	21 SO4-IC MG/L	22 RESIDUE MG/L	23 T. PHOS MG/L
1	0.5	5.0	1.3	3.1	0.33	0.47	1.7	3.28		L10.	0.009
2	0.5	5.9	1.4	3.1	0.33	0.54	1.9	3.30		L10.	0.006
3											
4	0.4	9.6	1.1	4.7	0.28	0.65	1.0	3.32		L10.	0.004
5	0.3	9.8	1.1	4.3	0.30	0.67	1.6	3.30		L10.	0.004
6	0.3	9.8	1.2	4.3	0.30	0.67	1.6	3.50		L10.	0.003
7	0.5	9.7	1.2	4.2	0.31	0.67	1.6	3.50		L10.	0.004
8											
9	0.7	3.1	1.9	2.4	0.43	0.42	2.3	3.24	2.7	L10.	0.017
10	0.7	3.6	2.0	2.2	0.47	0.44	2.4	3.10		L10.	0.013

0	24 NO3+NO2 MG/L	25 T. NITROGEN MG/L	26 D.O.C. MG/L	27 FE-EXT MG/L	28 MN-EXT MG/L	29 CU-EXT MG/L	30 PB-EXT MG/L	31 AL-EXT MG/L	32 HG-EXT MG/L	33 CD-EXT MG/L
1	L.01	0.12	4.7	0.08	0.02	L.002	L.002	0.170		L.001
2	L.01	0.11	5.2		0.01	L.002	L.002	0.024	L.02	L.001
3										
4	L.01	L.1	3.2		0.01	L.002	L.002	0.190		L.001
5	0.01	L.1	2.8		L.01	L.002	L.002	L.010	L.02	L.001
6	L.01	L.1	3.3		L.01	L.002	L.002	L.010	L.02	L.001
7	0.03	L.1	3.2		L.01	L.002	L.002	L.010	L.02	L.001
8										
9	L.01	0.12	7.6	0.15	0.04	L.002	L.002	0.170		L.001
10	L.01	0.14	7.5	0.12	0.02	L.002	L.002	0.052	L.02	L.001

TABLE 8: QA/QC DATA FOR T. PHOSPHORUS AND METALS
FROM FIELD PRESERVED DIST. WATER BLANKS

0	1 STATION	2 SAMPLING DATE	3 SAMPLING TIME	4 SUBID	5 T. PHOS MG/L	6 MN-EXT MG/L	7 CU-EXT MG/L	8 PB-EXT MG/L	9 AL-EXT MG/L	10 HG-EXT MG/L	11 CD-EXT MG/L
1	00NB01AR9901	26-JUN-86	1201	145		0.01	L.002	L.002	L.01		L.001
2	00NB01AR0001	28-AUG-86	1201	145	L.001	L.01	L.002	L.002	L.010	L.02	L.001
3	00NB01AR0001	13-NOV-86	1545	145	0.01	L.01	L.002	L.002	L.01	L.02	L.001
4	00NB01AR0001	19-DEC-86	1201	145	L.001	L.01	L.002	L.002	L.010	L.02	L.001
5	00NB01AR0001	29-JAN-87	1201	145		L.01	L.002	L.002	L.010	L.02	L.001
6	00NB01AR9901	24-APR-87	900	145	L.001	L.01	L.002	L.002	L.010	L.02	L.001
7	00NB01AR9901	11-JUN-87	1030	145		L.01	L.002	L.002	0.01		L.001
8	00NB01AR9901	24-JUL-87	1201	145		L.01	L.002	L.002	L.010		L.001
9	00NB01AR9901	10-SEP-87	1201	145		L.01	L.002	L.002	L.010		L.001

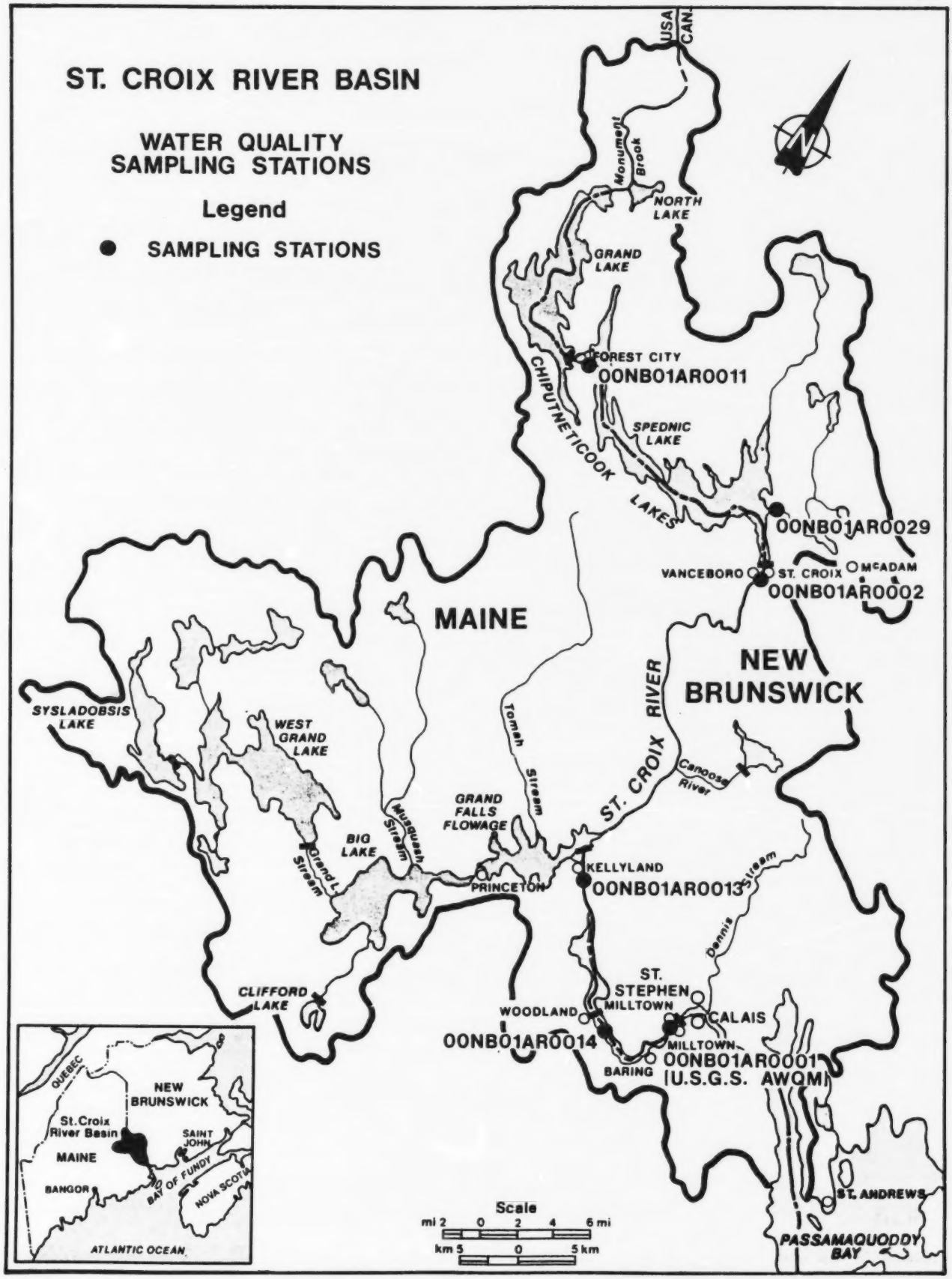

ST. CROIX RIVER BASIN
WATER QUALITY
SAMPLING STATIONS
Legend
SAMPLING STATIONS
USA
CAN.
Monument Brook
NORTH LAKE
GRAND LAKE
FOREST CITY
00NB01AR0011
CHIPUTNETICOOK LAKES
SPEDNIC LAKE
00NB01AR0029
VANCEBORO
ST. CROIX
McADAM
00NB01AR0002
MAINE
NEW BRUNSWICK
ST. CROIX RIVER
SYSLADOBSIS LAKE
WEST GRAND LAKE
Tomah Stream
Canoose River
GRAND FALLS FLOWAGE
Mattagamon Stream
Grand Lake Stream
BIG LAKE
PRINCETON
KELLYLAND
00NB01AR0013
Dennis Stream
CLIFFORD LAKE
ST. STEPHEN
MILLTOWN
WOODLAND
CALAIS
00NB01AR0014
MILLTOWN-
00NB01AR0001
BARING
(U.S.G.S. AWQMI)
ST. ANDREWS
PASSAMAQUODDY BAY
Scale
mi 2 0 2 4 6 mi
km 5 0 5 km
QUEBEC
NEW BRUNSWICK
St. Croix River Basin
SAINT JOHN
MAINE
BANGOR
BAY OF FUNDY
NOVA SCOTIA
ATLANTIC OCEAN

FIGURE 1

FIGURE 2: DAILY MEAN DISSOLVED OXYGEN CONCENTRATIONS (MG/L)
FROM THE MILLTOWN AWQM FOR JULY 1/87 TO SEPT. 30/87

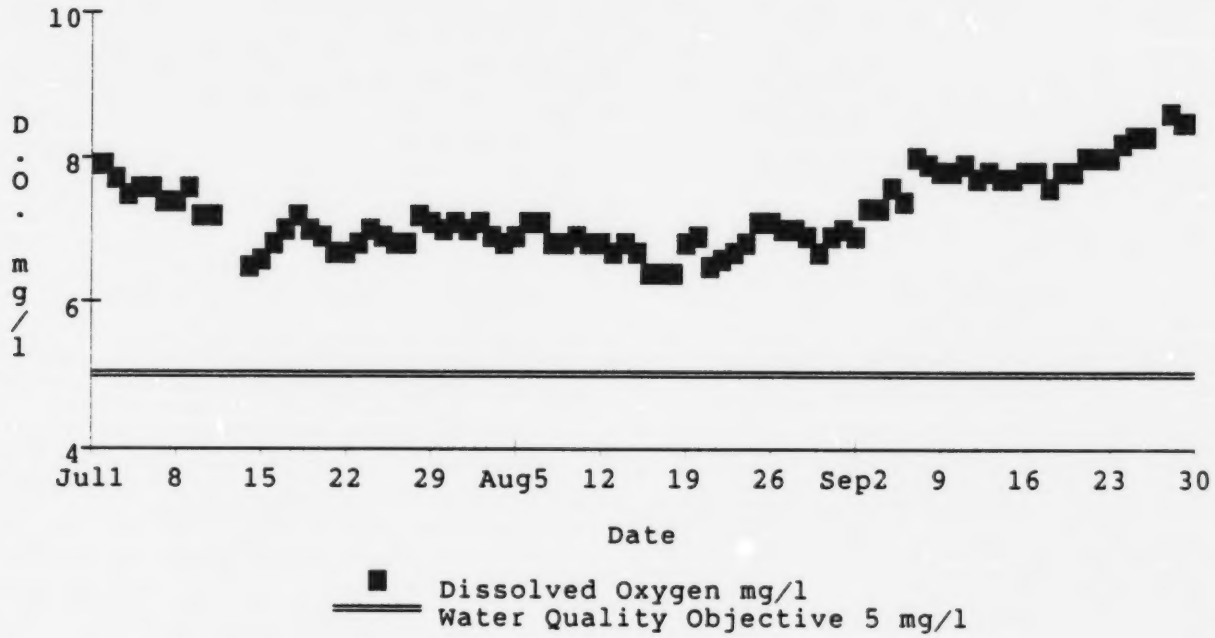
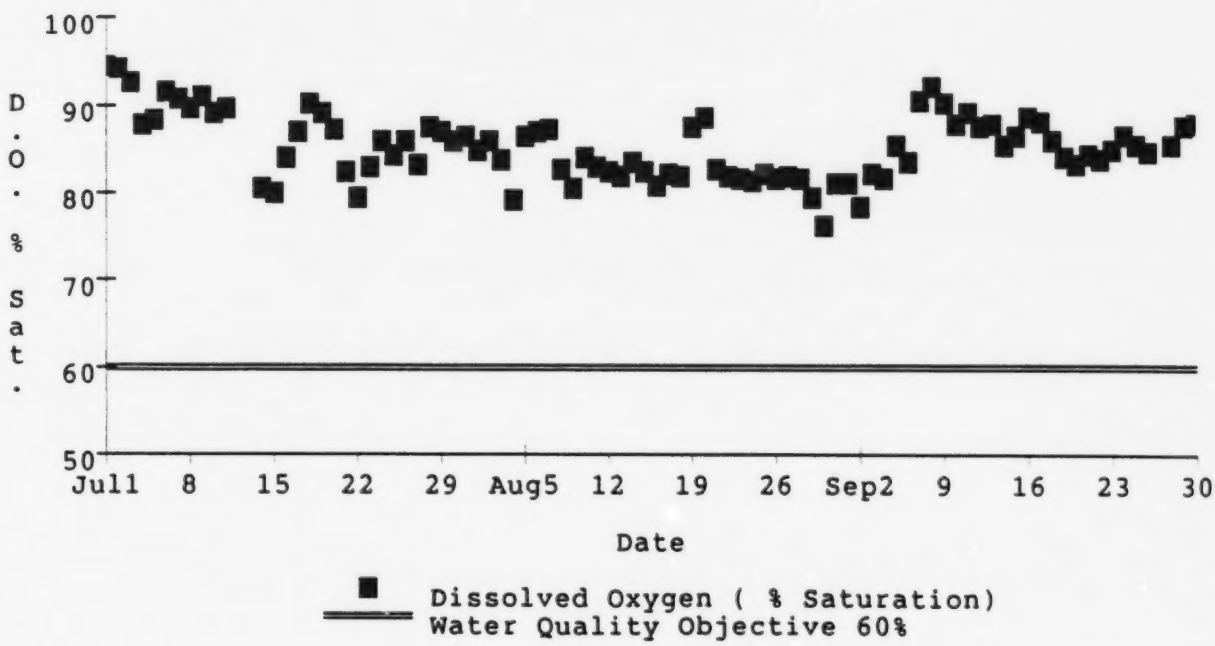


FIGURE 3: DAILY MEAN DISSOLVED OXYGEN CONCENTRATIONS (% SATURATION)
FROM MILLTOWN AWQM FOR JULY 1/87 TO SEPT. 30/87



APPENDIX

AUTOMATIC WATER QUALITY MONITORING DATA

MILLTOWN, MAINE

SUMMARY OF DAILY AMGM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-SEP-86 to 30-SEP-86

	DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
#	1-SEP-86	15.6	16.8	17.9	0.0	6.6	6.7	6.7	0.0	66.4	66.4	66.4	0.0
	2-SEP-86	16.4	17.3	17.9	0.5	6.6	6.7	6.7	0.0	62.4	70.3	74.2	3.9
	3-SEP-86	17.1	17.9	18.3	0.6	6.7	6.9	7.1	0.2	74.2	79.1	85.9	8.8
	4-SEP-86	17.1	17.6	17.9	-0.3	6.9	7.0	7.1	0.1	58.5	70.1	78.1	-9.0
#	5-SEP-86	17.5	17.8	17.9	0.2	6.9	6.9	6.9	-0.1	50.7	52.7	54.6	-17.4
#	6-SEP-86	16.4	16.7	17.1	-1.1	6.7	6.8	6.8	-0.1	46.8	48.8	50.7	-3.9
#	7-SEP-86	16.4	16.5	16.7	-0.2	6.7	6.7	6.8	-0.1	50.7	50.9	54.6	2.1
	8-SEP-86	15.6	16.1	16.7	-0.4	6.7	6.7	6.8	0.0	50.7	50.9	54.6	0.0
	9-SEP-86	15.6	16.1	16.7	0.0	6.7	6.7	6.8	0.0	46.8	47.9	50.7	-3.0
	10-SEP-86	16.4	16.8	17.1	0.7	6.7	6.7	6.8	0.0	46.8	50.4	54.6	2.5
	11-SEP-86	16.0	16.5	17.1	-0.3	6.7	6.7	6.8	0.0	50.7	54.6	58.5	4.2
#	12-SEP-86	16.4	16.7	17.5	0.2	6.7	6.7	6.8	0.0	54.6	56.2	58.5	1.6
	13-SEP-86	16.0	16.8	17.5	0.1	6.7	6.8	6.9	0.1	58.5	61.4	62.4	5.2
	14-SEP-86	15.2	16.2	17.5	-0.6	6.7	6.8	6.9	0.0	58.5	64.7	70.3	3.3
	15-SEP-86	14.0	14.8	16.0	-1.4	6.9	6.9	7.1	0.1	70.3	72.2	78.1	7.5
	16-SEP-86	13.6	14.2	15.2	-0.6	6.9	6.9	7.1	0.0	78.1	78.1	78.1	5.9
	17-SEP-86	12.5	13.3	14.4	-0.9	6.9	6.9	7.0	0.0	74.2	75.0	78.1	-3.1
	18-SEP-86	12.5	13.6	14.8	0.3	6.9	6.9	7.0	0.0	70.3	73.7	74.2	-1.3
#	19-SEP-86	14.0	14.5	14.8	0.9	7.0	7.0	7.0	0.1	70.3	72.9	74.2	-0.8
#	20-SEP-86	****	****	****	*****	****	****	****	*****	******	******	******	*******
#	21-SEP-86	13.2	14.0	14.4	0.0	6.9	6.9	6.9	0.0	66.4	69.0	70.3	0.0
	22-SEP-86	12.5	13.6	14.4	-0.4	6.9	6.9	7.0	0.0	70.3	70.3	70.3	1.3
	23-SEP-86	12.8	13.6	14.4	0.0	5.4	6.8	7.0	-0.1	66.4	67.5	70.3	-2.8
#	24-SEP-86	12.5	12.6	12.8	-1.0	6.9	6.9	6.9	0.1	66.4	66.8	70.3	-0.7
	GRAND MONTHLY MEAN	15.0	15.7	16.3	-0.2	6.7	6.8	6.9	0.0	61.3	63.9	66.9	0.2

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AMOM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-SEP-86 to 30-SEP-86

	DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
#	1-SEP-86	7.3	7.5	7.7	0.0	76.4	81.3	85.0	0.0
	2-SEP-86	7.2	7.4	7.6	-0.1	77.7	80.5	84.1	-0.8
	3-SEP-86	6.8	7.4	7.9	0.0	75.5	82.2	87.6	1.7
	4-SEP-86	7.6	7.8	8.2	0.4	83.4	86.5	91.0	4.3
#	5-SEP-86	8.1	8.1	8.2	0.3	88.6	90.3	91.0	3.8
#	6-SEP-86	7.6	7.8	8.1	-0.3	81.2	84.0	88.5	-6.3
#	7-SEP-86	7.6	7.7	7.8	-0.1	81.9	82.9	84.4	-1.1
	8-SEP-86	7.7	7.8	8.1	0.1	82.2	83.3	85.5	0.4
	9-SEP-86	7.9	8.0	8.3	0.2	83.0	85.6	89.5	2.3
	10-SEP-86	7.8	8.0	8.4	0.0	83.7	87.1	92.0	1.5
	11-SEP-86	7.7	7.9	8.1	-0.1	82.1	85.1	88.5	-2.0
#	12-SEP-86	7.7	7.8	8.0	-0.1	82.8	84.7	87.7	-0.4
	13-SEP-86	7.7	7.9	8.3	0.1	82.8	86.1	91.1	1.4
	14-SEP-86	7.9	8.2	8.6	0.3	83.1	87.3	91.2	1.2
	15-SEP-86	8.1	8.4	8.8	0.2	83.2	87.3	91.3	0.0
	16-SEP-86	8.3	8.4	8.8	0.0	83.2	85.9	91.3	-1.4
	17-SEP-86	8.4	8.6	8.9	0.2	81.7	85.5	91.1	-0.4
	18-SEP-86	8.4	8.7	8.9	0.1	82.5	87.3	92.0	1.8
#	19-SEP-86	8.7	8.8	8.9	0.1	88.0	90.7	92.0	3.4
#	20-SEP-86	****	****	****	*****	*****	*****	*****	******
#	21-SEP-86	8.6	8.8	9.0	0.0	85.6	89.1	92.0	0.0
	22-SEP-86	8.5	8.7	9.0	-0.1	83.2	87.8	92.0	-1.3
	23-SEP-86	8.4	8.6	8.9	-0.1	83.3	86.3	91.1	-1.5
#	24-SEP-86	8.4	8.5	8.6	-0.1	82.5	83.9	84.8	-2.4
	GRAND MONTHLY MEAN	7.9	8.1	8.4	0.0	82.5	85.7	89.3	0.2

\# A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY ANQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-OCT-86 to 31-OCT-86

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
# 6-OCT-86	12.5	12.7	12.8	0.0	7.0	7.0	7.1	0.0	78.1	79.1	82.0	0.0
7-OCT-86	10.9	11.9	12.8	-0.8	6.9	7.0	7.1	0.0	74.2	77.8	78.1	-1.3
8-OCT-86	10.5	11.6	12.5	-0.3	6.9	7.0	7.1	0.0	70.3	75.7	82.0	-2.1
9-OCT-86	11.3	11.9	12.8	0.3	6.9	7.0	7.1	0.0	70.3	75.8	82.0	0.1
# 10-OCT-86	10.5	10.9	11.7	-1.0	6.9	6.9	7.0	-0.1	74.2	75.5	78.1	-0.3
# 11-OCT-86	8.6	9.3	10.5	-1.6	6.9	7.0	7.1	0.1	74.2	76.6	82.0	1.1
# 12-OCT-86	9.0	9.7	10.5	0.4	7.0	7.0	7.1	0.0	74.2	75.5	78.1	-1.1
# 13-OCT-86	9.4	9.6	10.1	-0.1	7.0	7.0	7.1	0.0	82.0	85.6	85.9	10.1
14-OCT-86	9.8	10.0	10.5	0.4	6.9	6.9	7.0	-0.1	74.2	78.3	85.9	-7.3
# 15-OCT-86	10.5	10.7	10.9	0.7	6.9	7.0	7.1	0.1	82.0	84.3	89.8	6.0
# 16-OCT-86	9.0	9.7	10.5	-1.0	6.9	7.0	7.1	0.0	74.2	80.0	89.8	-4.3
17-OCT-86	9.0	9.4	10.1	-0.3	7.0	7.0	7.0	0.0	82.0	86.7	93.7	6.7
18-OCT-86	8.2	8.5	9.0	-0.9	7.0	7.0	7.1	0.0	93.7	93.7	93.7	7.0
# 19-OCT-86	7.4	7.9	8.2	-0.6	7.1	7.1	7.1	0.1	97.6	111.3	121.0	17.6
20-OCT-86	7.8	8.3	9.0	0.4	7.1	7.1	7.2	0.0	121.0	128.5	140.0	17.2
# 21-OCT-86	7.8	8.0	8.2	-0.3	7.1	7.1	7.2	0.0	117.0	121.7	128.0	-6.8
22-OCT-86	8.2	8.7	9.4	0.7	7.1	7.1	7.2	0.0	101.0	108.3	124.0	-13.4
23-OCT-86	9.0	9.1	9.4	0.4	7.1	7.1	7.2	0.0	105.0	120.8	128.0	12.5
24-OCT-86	7.0	7.9	9.0	-1.2	7.1	7.1	7.2	0.0	128.0	131.8	136.0	11.0
# 26-OCT-86	6.6	6.9	7.0	-1.0	7.2	7.2	7.2	0.1	132.0	132.3	136.0	0.5
27-OCT-86	6.6	7.1	7.4	0.2	7.2	7.2	7.2	0.0	136.0	144.3	152.0	12.0
28-OCT-86	7.4	7.5	7.8	0.4	7.1	7.2	7.2	0.0	121.0	139.3	156.0	-5.0
# 29-OCT-86	7.8	8.1	8.6	0.6	7.1	7.2	7.2	0.0	121.0	132.3	140.0	-7.0
30-OCT-86	7.8	8.5	9.0	0.4	7.1	7.2	7.2	0.0	132.0	134.5	136.0	2.2
31-OCT-86	5.9	6.7	7.8	-1.8	7.1	7.2	7.2	0.0	136.0	140.0	144.0	5.5
GRAND MONTHLY MEAN												
	8.7	9.2	9.8	-0.2	7.0	7.1	7.1	0.0	98.0	103.6	109.7	2.4

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AMOM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-OCT-86 to 31-OCT-86

07-Apr-87 ENVIRONMENT CANADA WATER QUALITY BRANCH - MONCTON Page 1 a

DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
# 6-OCT-86	9.0	9.1	9.1	0.0	87.8	89.0	90.2	0.0
7-OCT-86	9.1	9.3	9.6	0.2	86.8	89.5	94.0	0.5
8-OCT-86	9.3	9.5	9.8	0.2	86.7	90.8	95.4	1.3
9-OCT-86	9.3	9.5	9.8	0.0	88.4	91.1	96.3	0.3
# 10-OCT-86	9.5	9.5	9.5	0.0	88.1	89.6	91.4	-1.5
# 11-OCT-86	9.8	9.9	10.1	0.4	86.6	89.9	94.6	0.3
# 12-OCT-86	9.9	10.0	10.1	0.1	88.9	91.8	94.6	1.9
# 13-OCT-86	9.7	9.8	9.9	-0.2	87.7	89.1	91.6	-2.7
14-OCT-86	9.5	9.7	9.9	-0.1	87.1	89.1	91.6	0.0
# 15-OCT-86	9.5	9.7	10.0	0.0	88.8	91.3	94.1	2.2
# 16-OCT-86	9.5	9.8	10.0	0.1	85.4	89.3	93.2	-2.0
17-OCT-86	9.6	9.7	9.9	-0.1	86.1	88.3	91.6	-1.0
18-OCT-86	9.8	9.9	10.0	0.2	85.8	87.3	88.8	-1.0
# 19-OCT-86	9.9	9.9	10.0	0.0	85.5	86.7	87.9	-0.6
20-OCT-86	9.8	9.9	10.0	0.0	86.3	87.1	87.9	0.4
# 21-OCT-86	9.8	9.8	10.0	-0.1	84.9	86.1	87.9	-1.0
22-OCT-86	9.7	9.9	10.0	0.1	86.0	87.7	89.1	1.6
23-OCT-86	9.6	9.8	9.9	-0.1	86.1	87.9	89.8	0.2
24-OCT-86	9.6	9.8	9.9	0.0	83.6	85.3	87.5	-2.6
# 26-OCT-86	9.9	10.0	10.0	0.2	83.7	85.2	86.0	-0.1
27-OCT-86	9.8	10.0	10.0	0.0	83.7	85.2	86.8	0.0
28-OCT-86	9.7	9.8	9.8	-0.2	83.5	84.4	84.9	-0.8
# 29-OCT-86	9.8	9.8	9.8	0.0	84.9	85.6	87.3	1.2
30-OCT-86	9.8	9.9	9.9	0.1	84.9	87.3	88.2	1.7
31-OCT-86	9.8	9.9	10.0	0.0	82.1	83.7	85.6	-3.6
GRAND MONTHLY MEAN	9.6	9.8	9.9	0.0	86.0	87.9	90.3	-0.2

\# A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMGM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-NOV-86 to 30-NOV-86

	DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
	1-NOV-86	5.1	5.7	6.3	0.0	7.2	7.2	7.3	0.0	136.0	140.2	144.0	0.0
	2-NOV-86	6.3	6.9	7.4	1.2	7.2	7.2	7.3	0.0	144.0	148.3	152.0	8.1
	3-NOV-86	5.1	5.8	6.6	-1.1	7.2	7.2	7.2	0.0	140.0	145.5	148.0	-2.8
	4-NOV-86	5.1	5.1	5.5	-0.7	7.2	7.2	7.2	0.0	124.0	135.7	140.0	-9.8
@	5-NOV-86	2.7	3.7	5.1	-1.4	7.1	7.2	7.2	0.0	124.0	130.3	136.0	-5.4
	6-NOV-86	2.3	2.6	2.7	-1.1	7.2	7.2	7.2	0.0	136.0	136.5	140.0	6.2
	7-NOV-86	2.7	3.4	4.3	0.8	7.2	7.2	7.2	0.0	140.0	142.3	144.0	5.8
	8-NOV-86	3.9	4.2	4.3	0.8	7.2	7.2	7.2	0.0	144.0	147.5	148.0	5.2
@	9-NOV-86	3.9	4.6	5.5	0.4	7.2	7.2	7.2	0.0	140.0	145.6	148.0	-1.9
	10-NOV-86	4.7	5.1	5.9	0.5	7.0	7.2	7.2	0.0	136.0	140.2	144.0	-5.4
@	11-NOV-86	2.3	2.8	3.1	-2.3	7.2	7.2	7.3	0.0	140.0	140.3	144.0	0.1
	12-NOV-86	2.3	3.0	3.9	0.2	7.2	7.2	7.2	0.0	136.0	141.0	144.0	0.7
	13-NOV-86	2.3	3.8	4.3	0.8	7.2	7.2	7.2	0.0	132.0	135.8	136.0	-5.2
@	14-NOV-86	0.4	1.7	2.3	-2.1	7.2	7.3	7.3	0.1	132.0	138.0	144.0	2.2
@	15-NOV-86	****	****	****	*****	7.3	7.3	7.3	0.0	140.0	140.4	144.0	2.4
	16-NOV-86	0.4	0.9	1.2	0.0	7.2	7.3	7.3	0.0	121.0	133.4	148.0	-7.0
	17-NOV-86	0.4	0.7	0.8	-0.2	7.2	7.2	7.3	-0.1	128.0	137.8	144.0	4.4
	18-NOV-86	0.4	0.8	1.2	0.1	7.2	7.3	7.3	0.1	140.0	141.2	144.0	3.4
	19-NOV-86	0.4	0.4	0.4	-0.4	7.3	7.3	7.4	0.0	136.0	139.7	140.0	-1.5
@	20-NOV-86	****	****	****	*****	7.2	7.3	7.4	0.0	117.0	135.1	148.0	-4.6
	21-NOV-86	****	****	****	*****	7.2	7.3	7.4	0.0	117.0	140.4	175.0	5.3
	22-NOV-86	****	****	****	*****	7.2	7.3	7.3	0.0	140.0	145.0	152.0	4.6
	23-NOV-86	****	****	****	*****	7.2	7.2	7.2	-0.1	128.0	135.3	144.0	-9.7
@	24-NOV-86	****	****	****	*****	7.2	7.2	7.2	0.0	128.0	128.0	128.0	-7.3
@	25-NOV-86	****	****	****	*****	7.1	7.1	7.1	-0.1	89.8	95.9	105.0	-32.1
	26-NOV-86	****	****	****	*****	7.0	7.0	7.1	-0.1	89.8	91.9	101.0	-4.0
	27-NOV-86	0.4	0.6	0.8	0.0	7.1	7.1	7.1	0.1	97.6	105.0	113.0	13.1
	28-NOV-86	0.4	0.4	0.4	-0.2	7.0	7.0	7.1	-0.1	93.7	98.7	109.0	-6.3
	29-NOV-86	****	****	****	*****	6.9	7.0	7.1	0.0	82.0	87.8	101.0	-10.9
	30-NOV-86	****	****	****	*****	7.0	7.0	7.1	0.0	85.9	86.7	89.8	-1.1
	GRAND MONTHLY MEAN	2.6	3.1	3.6	-0.2	10.7	10.8	10.8	0.0	186.9	195.5	204.9	-2.7

@ A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AMQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-NOV-86 to 30-NOV-86

07-Apr-87 ENVIRONMENT CANADA WATER QUALITY BRANCH - MONCTON Page 1 a

DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
1-NOV-86	10.0	10.2	10.3	0.0	82.2	84.2	86.8	0.0
2-NOV-86	9.8	10.2	10.3	0.0	83.9	86.4	87.4	2.2
3-NOV-86	9.8	9.9	10.0	-0.3	80.6	82.0	83.4	-4.4
4-NOV-86	10.0	10.2	10.2	0.3	81.0	82.6	83.8	0.6
@ 5-NOV-86	10.2	10.3	10.4	0.1	79.7	81.1	82.9	-1.5
6-NOV-86	10.4	10.5	10.7	0.2	79.4	80.2	81.4	-0.9
7-NOV-86	10.3	10.5	10.6	0.0	79.7	81.6	84.3	1.4
8-NOV-86	10.3	10.4	10.5	-0.1	81.6	82.8	83.7	1.2
@ 9-NOV-86	10.2	10.3	10.4	-0.1	81.6	82.7	84.4	-0.1
10-NOV-86	10.1	10.5	11.4	0.2	82.0	85.4	94.3	2.7
@ 11-NOV-86	11.3	11.4	11.4	0.9	85.3	87.2	88.3	1.8
12-NOV-86	11.4	11.5	12.7	0.1	85.8	88.1	95.8	0.9
13-NOV-86	11.4	11.4	11.5	-0.1	87.0	90.0	91.8	1.9
@ 14-NOV-86	11.6	11.9	12.1	0.5	83.2	85.0	87.6	-5.0
@ 15-NOV-86	12.1	12.1	12.2	0.2	85.5	86.1	86.5	1.1
16-NOV-86	11.9	12.0	12.1	-0.1	86.2	87.1	87.7	1.0
17-NOV-86	11.8	11.9	12.0	-0.1	84.7	86.1	86.8	-1.0
18-NOV-86	11.9	12.0	12.1	0.1	85.3	86.6	88.3	0.5
19-NOV-86	12.0	12.1	12.1	0.1	84.9	85.7	86.0	-0.9
@ 20-NOV-86	12.1	12.2	12.4	0.1	86.0	86.7	87.7	1.0
21-NOV-86	12.3	12.5	12.6	0.3	87.1	88.4	89.3	1.7
22-NOV-86	12.2	12.3	12.3	-0.2	86.5	86.9	87.1	-1.5
23-NOV-86	12.2	12.4	12.5	0.1	86.5	87.4	88.2	0.5
@ 24-NOV-86	12.2	12.4	12.5	0.0	86.5	87.6	88.2	0.2
@ 25-NOV-86	12.3	12.4	12.5	0.0	87.1	87.6	88.8	0.0
26-NOV-86	12.1	12.3	12.5	-0.1	85.4	86.8	88.2	-0.8
27-NOV-86	12.1	12.2	12.4	-0.1	86.4	87.6	89.0	0.8
28-NOV-86	11.9	12.0	12.2	-0.2	84.3	85.3	86.5	-2.3
29-NOV-86	12.1	12.1	12.3	0.1	85.5	86.1	87.1	0.8
30-NOV-86	12.1	12.3	12.6	0.2	85.5	87.0	89.3	0.9
GRAND MONTHLY MEAN	11.3	11.5	11.7	0.1	84.2	85.6	87.4	0.1

@ A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMGM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-JAN-87 to 31-JAN-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
@ 1-JAN-87	0.4	0.5	0.8	0.0	6.9	6.9	7.0	0.0	121.0	130.1	144.0	0.0
@ 2-JAN-87	0.4	0.4	0.4	-0.1	7.0	7.0	7.1	0.1	136.0	145.3	152.0	15.2
@ 3-JAN-87	****	****	****	*****	****	****	****	*****	******	******	******	*******
@ 4-JAN-87	0.4	0.4	0.4	0.0	7.0	7.0	7.0	0.0	136.0	137.3	140.0	0.0
5-JAN-87	0.4	0.4	0.4	0.0	7.0	7.0	7.0	0.0	128.0	136.0	140.0	-1.3
@ 6-JAN-87	0.4	0.4	0.4	0.0	7.0	7.0	7.0	0.0	124.0	128.2	132.0	-7.8
7-JAN-87	0.4	0.4	0.4	0.0	7.0	7.0	7.1	0.0	124.0	134.5	144.0	6.3
8-JAN-87	0.4	0.6	0.8	0.2	7.0	7.0	7.1	0.0	124.0	130.7	136.0	-3.8
@ 9-JAN-87	0.4	0.4	0.4	-0.2	7.0	7.0	7.1	0.0	128.0	138.9	144.0	8.2
@ 10-JAN-87	0.4	0.4	0.4	0.0	6.9	7.0	7.1	0.0	101.0	116.3	144.0	-22.6
@ 11-JAN-87	0.4	0.4	0.4	0.0	6.9	7.0	7.0	0.0	97.6	100.0	101.0	-16.3
12-JAN-87	0.4	0.4	0.4	0.0	6.9	6.9	7.0	-0.1	97.6	104.0	109.0	4.0
13-JAN-87	0.4	0.4	0.4	0.0	6.9	6.9	6.9	0.0	97.6	99.5	105.0	-4.5
@ 14-JAN-87	0.4	0.4	0.4	0.0	6.9	6.9	6.9	0.0	93.7	99.3	105.0	-0.2
15-JAN-87	0.4	0.4	0.4	0.0	6.8	6.8	6.9	-0.1	85.9	88.5	97.6	-10.8
16-JAN-87	0.4	0.5	0.8	0.1	6.8	6.8	6.9	0.0	85.9	89.6	93.7	1.1
@ 17-JAN-87	0.4	0.4	0.4	-0.1	6.8	6.8	6.8	0.0	85.9	89.4	93.7	-0.2
@ 18-JAN-87	0.4	0.4	0.4	0.0	6.7	6.8	6.9	0.0	89.8	94.9	105.0	5.5
@ 19-JAN-87	0.4	0.4	0.4	0.0	6.8	6.8	6.9	0.0	89.8	97.1	105.0	2.2
20-JAN-87	0.4	0.4	0.4	0.0	6.7	6.8	6.9	0.0	85.9	92.2	101.0	-4.9
21-JAN-87	0.4	0.4	0.4	0.0	6.8	6.8	6.9	0.0	85.9	88.7	97.6	-3.5
22-JAN-87	0.4	0.4	0.4	0.0	6.8	6.8	6.9	0.0	82.0	84.8	89.8	-3.9
23-JAN-87	0.4	0.4	0.4	0.0	6.8	6.8	6.9	0.0	82.0	90.6	105.0	5.8
24-JAN-87	0.4	0.4	0.4	0.0	6.8	6.8	6.9	0.0	101.0	103.3	105.0	12.7
25-JAN-87	0.4	0.4	0.4	0.0	6.8	6.8	6.9	0.0	101.0	109.5	121.0	6.2
@ 26-JAN-87	0.4	0.4	0.4	0.0	6.8	6.9	6.9	0.1	121.0	127.0	144.0	17.5
@ 27-JAN-87	0.4	0.4	0.4	0.0	6.9	6.9	6.9	0.0	121.0	132.0	148.0	5.0
@ 28-JAN-87	0.4	3.7	10.9	3.3	4.0	5.8	6.9	-1.1	117.0	125.2	136.0	-6.8
@ 29-JAN-87	10.9	12.9	15.2	9.2	4.0	4.0	4.0	-1.8	******	******	******	*******
@ 30-JAN-87	13.2	13.6	14.0	0.7	4.0	4.0	4.0	0.0	******	******	******	*******
@ 31-JAN-87	****	****	****	*****	****	****	****	*****	******	******	******	*******
GRAND MONTHLY MEAN	1.3	1.5	1.9	0.5	7.1	7.1	7.3	-0.1	105.3	111.6	119.9	0.1

@ A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AWQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-JAN-87 to 31-JAN-87

20-Aug-87 ENVIRONMENT CANADA WATER QUALITY BRANCH - MONCTON Page 1 a

DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
# 1-JAN-87	12.0	12.0	12.1	0.0	114.0	115.5	116.0	0.0
# 2-JAN-87	11.9	12.0	12.1	0.0	115.0	115.6	117.0	0.1
# 3-JAN-87	****	****	****	*****	*****	*****	*****	******
# 4-JAN-87	11.5	11.6	11.7	0.0	119.0	119.6	121.0	0.0
5-JAN-87	11.7	11.9	12.0	0.3	116.0	117.3	119.0	-2.3
# 6-JAN-87	11.9	12.0	12.1	0.1	115.0	116.4	117.0	-0.9
7-JAN-87	11.7	11.9	12.0	-0.1	116.0	117.3	119.0	0.9
8-JAN-87	11.6	11.7	11.7	-0.2	118.0	118.6	120.0	1.3
# 9-JAN-87	11.7	11.8	11.9	0.1	117.0	117.7	119.0	-0.9
# 10-JAN-87	11.9	12.0	12.1	0.2	115.0	116.1	117.0	-1.6
# 11-JAN-87	11.7	11.9	12.0	-0.1	116.0	117.3	118.0	1.2
12-JAN-87	11.5	11.7	11.7	-0.2	118.0	119.2	121.0	1.9
13-JAN-87	11.6	11.7	11.7	0.0	118.0	119.3	120.0	0.1
# 14-JAN-87	11.6	11.7	11.7	0.0	118.0	118.7	120.0	-0.6
15-JAN-87	11.6	11.6	11.7	-0.1	118.0	119.6	120.0	0.9
16-JAN-87	11.5	11.6	11.7	0.0	118.0	119.4	121.0	-0.2
# 17-JAN-87	11.7	11.7	11.7	0.1	118.0	118.6	119.0	-0.8
# 18-JAN-87	11.6	11.7	11.7	0.0	118.0	119.0	120.0	0.4
# 19-JAN-87	11.5	11.6	11.7	-0.1	118.0	120.0	121.0	1.0
20-JAN-87	11.5	11.6	11.7	0.0	118.0	119.8	121.0	-0.2
21-JAN-87	11.6	11.7	11.7	0.1	119.0	119.1	120.0	-0.7
22-JAN-87	11.7	11.7	11.7	0.0	118.0	118.7	119.0	-0.4
23-JAN-87	11.4	11.6	11.7	-0.1	118.0	120.4	122.0	1.7
24-JAN-87	11.4	11.4	11.5	-0.2	121.0	122.0	122.0	1.6
25-JAN-87	11.4	11.4	11.5	0.0	121.0	121.5	122.0	-0.5
# 26-JAN-87	11.3	11.4	11.6	0.0	120.0	121.9	123.0	0.4
# 27-JAN-87	11.3	11.4	11.4	0.0	122.0	122.1	123.0	0.2
# 28-JAN-87	5.7	10.0	11.4	-1.4	122.0	132.0	211.0	9.9
# 29-JAN-87	8.2	9.9	11.1	-0.1	88.8	103.9	129.0	-28.1
# 30-JAN-87	10.7	10.9	11.0	1.0	89.6	90.6	91.5	-13.3
# 31-JAN-87	****	****	****	*****	*****	*****	*****	******
GRAND MONTHLY MEAN	11.3	11.6	11.7	0.0	115.9	117.8	122.4	-1.0

\# A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMGM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-MAR-87 to 31-MAR-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
# 11-MAR-87	0.4	0.4	0.4	0.0	6.7	6.8	7.1	0.0	144.0	148.8	152.0	0.0
12-MAR-87	0.8	0.8	0.8	0.4	6.7	6.7	6.7	-0.1	132.0	141.0	152.0	-7.8
# 13-MAR-87	0.8	0.8	0.8	0.0	6.7	6.8	6.8	0.1	136.0	140.8	144.0	-0.2
14-MAR-87	0.8	1.3	2.0	0.5	6.8	6.8	6.9	0.0	140.0	143.8	144.0	3.0
15-MAR-87	0.8	1.3	1.6	0.0	6.8	6.8	6.9	0.0	140.0	143.2	144.0	-0.6
# 16-MAR-87	0.8	1.2	1.6	-0.1	6.9	6.9	6.9	0.1	144.0	146.2	148.0	3.0
# 17-MAR-87	0.8	1.1	1.6	-0.1	6.9	6.9	6.9	0.0	144.0	145.5	148.0	-0.7
18-MAR-87	0.8	1.0	1.2	-0.1	6.9	6.9	6.9	0.0	128.0	142.5	148.0	-3.0
# 19-MAR-87	1.2	1.3	1.6	0.3	6.9	6.9	6.9	0.0	128.0	132.0	140.0	-10.5
# 20-MAR-87	****	****	****	*****	****	****	****	*****	*******	*******	*******	********
# 21-MAR-87	****	****	****	*****	****	****	****	*****	*******	*******	*******	********
# 22-MAR-87	1.2	1.8	2.7	0.0	6.9	6.9	6.9	0.0	140.0	144.0	156.0	0.0
23-MAR-87	1.6	2.4	3.1	0.6	6.7	6.8	6.9	-0.1	109.0	124.6	160.0	-19.4
24-MAR-87	1.2	2.3	3.5	-0.1	6.7	6.7	6.7	-0.1	93.7	96.7	109.0	-27.9
# 25-MAR-87	1.6	3.0	4.3	0.7	6.6	6.6	6.7	-0.1	89.8	93.9	97.6	-2.8
# 26-MAR-87	2.0	3.1	4.3	0.1	6.5	6.6	6.6	0.0	93.7	96.0	97.6	2.1
# 27-MAR-87	2.0	2.9	3.9	-0.2	6.5	6.6	6.6	0.0	82.0	87.4	97.6	-8.6
28-MAR-87	2.0	2.5	3.9	-0.4	6.5	6.5	6.6	-0.1	82.0	82.3	85.9	-5.1
29-MAR-87	1.6	2.8	4.7	0.3	6.4	6.5	6.5	0.0	78.1	80.9	82.0	-1.4
30-MAR-87	1.6	3.1	4.3	0.3	6.4	6.4	6.5	-0.1	78.1	79.1	82.0	-1.8
31-MAR-87	2.3	3.0	4.3	-0.1	6.5	6.5	6.5	0.1	74.2	76.6	78.1	-2.5
GRAND MONTHLY MEAN												
	1.3	1.9	2.7	0.1	6.7	6.7	6.8	0.0	113.5	118.2	124.5	-4.4

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AMOM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-MAR-87 to 31-MAR-87

DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
# 11-MAR-87	12.8	12.8	12.9	0.0	91.4	92.1	92.5	0.0
12-MAR-87	12.3	12.5	12.8	-0.3	89.0	90.7	92.4	-1.4
# 13-MAR-87	12.3	12.5	12.6	0.0	89.0	90.1	91.2	-0.6
14-MAR-87	12.3	12.4	12.5	-0.1	90.0	90.9	92.5	0.8
15-MAR-87	12.4	12.5	12.5	0.1	90.2	91.4	92.7	0.5
# 16-MAR-87	12.5	12.5	12.6	0.0	90.2	91.7	92.7	0.3
# 17-MAR-87	12.4	12.5	12.5	0.0	89.6	91.0	92.1	-0.7
18-MAR-87	12.3	12.4	12.5	-0.1	89.6	90.3	91.7	-0.7
# 19-MAR-87	12.3	12.4	12.4	0.0	90.0	90.7	91.5	0.4
# 20-MAR-87	****	****	****	*****	*****	*****	*****	******
# 21-MAR-87	****	****	****	*****	*****	*****	*****	******
# 22-MAR-87	12.1	12.2	12.3	0.0	88.9	91.0	93.9	0.0
23-MAR-87	12.0	12.2	12.3	0.0	88.6	92.1	94.9	1.1
24-MAR-87	12.0	12.1	12.2	-0.1	88.3	91.2	94.7	-0.9
# 25-MAR-87	11.8	11.9	12.1	-0.2	87.5	91.9	95.1	0.7
# 26-MAR-87	11.7	11.7	11.9	-0.2	87.3	90.8	94.8	-1.1
# 27-MAR-87	11.7	11.7	11.8	0.0	87.8	90.0	92.6	-0.8
28-MAR-87	11.4	11.6	11.7	-0.1	85.5	87.9	92.6	-2.1
29-MAR-87	11.3	11.4	11.6	-0.2	83.5	87.5	92.1	-0.4
30-MAR-87	11.1	11.4	11.5	0.0	83.5	87.5	91.8	0.0
31-MAR-87	11.4	11.6	11.8	0.2	86.4	89.2	91.8	1.7
GRAND MONTHLY MEAN	12.0	12.1	12.2	-0.1	88.2	90.4	92.8	-0.2

\# A day with less than 24 values.

**** No data values for that day.

a A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-APR-87 to 30-APR-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
# 1-APR-87	3.1	3.1	3.5	0.0	6.5	6.5	6.5	0.0	58.5	70.9	74.2	0.0
# 2-APR-87	2.7	19.1	32.4	16.0	4.0	4.7	6.6	-1.8	54.6	56.8	58.5	-14.1
# 3-APR-87	24.2	33.3	35.9	14.2	4.0	4.0	4.0	-0.7	15.6	15.6	15.6	-41.2
# 4-APR-87	25.3	31.6	34.3	-1.7	4.0	4.0	4.0	0.0	15.6	15.6	15.6	0.0
# 5-APR-87	22.2	32.5	35.5	0.9	4.0	4.0	4.0	0.0	15.6	15.6	15.6	0.0
# 6-APR-87	3.1	21.4	33.5	-11.1	4.0	4.6	6.5	0.6	39.0	87.4	281.0	71.8
# 7-APR-87	30.0	32.4	33.5	11.0	4.0	4.0	4.0	-0.6	3.9	15.0	15.6	-72.4
8-APR-87	33.2	33.3	33.5	0.9	4.0	4.0	4.0	0.0	15.6	15.6	15.6	0.6
9-APR-87	4.3	31.9	33.5	-1.4	4.0	4.1	6.6	0.1	15.6	17.1	50.7	1.5
# 10-APR-87	3.5	8.2	26.5	-23.7	4.0	5.6	6.2	1.5	42.9	45.4	58.5	28.3
# 11-APR-87	5.1	12.3	28.5	4.1	4.0	5.4	6.2	-0.2	46.8	46.8	46.8	1.4
# 12-APR-87	6.3	7.2	8.6	-5.1	6.0	6.0	6.1	0.6	46.8	47.2	50.7	0.4
# 13-APR-87	7.0	7.8	8.6	0.6	6.1	6.1	6.1	0.1	50.7	50.7	50.7	3.5
# 14-APR-87	3.9	4.9	6.6	-2.9	6.7	6.7	6.7	0.6	50.7	53.9	54.6	3.2
# 15-APR-87	4.7	5.9	7.0	1.0	6.7	6.8	6.8	0.1	54.6	56.3	58.5	2.4
16-APR-87	5.5	6.5	7.8	0.6	6.7	6.8	6.8	0.0	58.5	60.6	62.4	4.3
17-APR-87	6.3	6.8	7.8	0.3	6.8	6.8	6.9	0.0	62.4	62.4	62.4	1.8
# 18-APR-87	6.6	7.2	8.2	0.4	6.8	6.8	6.9	0.0	62.4	63.0	66.4	0.6
19-APR-87	7.8	8.4	10.1	1.2	6.8	6.8	6.8	0.0	66.4	67.7	70.3	4.7
20-APR-87	9.0	9.8	11.3	1.4	6.8	6.8	6.9	0.0	70.3	70.3	70.3	2.6
21-APR-87	10.1	11.0	12.5	1.2	6.8	6.8	6.9	0.0	66.4	69.7	70.3	-0.6
22-APR-87	10.5	11.5	12.5	0.5	6.8	6.8	6.9	0.0	70.3	71.1	74.2	1.4
23-APR-87	10.9	11.7	12.5	0.2	6.9	6.9	6.9	0.1	70.3	73.4	74.2	2.3
24-APR-87	10.9	11.4	12.5	-0.3	6.9	6.9	6.9	0.0	74.2	74.2	74.2	0.8
25-APR-87	10.1	11.0	12.5	-0.4	6.9	6.9	7.0	0.0	70.3	73.7	74.2	-0.5
# 26-APR-87	10.5	11.8	12.8	0.8	6.9	6.9	7.0	0.0	74.2	76.0	78.1	2.3
27-APR-87	10.5	11.8	12.8	0.0	6.9	6.9	7.0	0.0	78.1	79.4	82.0	3.4
# 28-APR-87	10.1	11.3	12.8	-0.5	6.9	7.0	7.0	0.1	78.1	78.5	82.0	-0.9
29-APR-87	9.4	10.0	11.3	-1.3	6.9	7.0	7.0	0.0	74.2	77.6	78.1	-0.9
30-APR-87	9.0	9.6	10.1	-0.4	6.9	7.0	7.1	0.0	78.1	81.4	82.0	3.8
GRAND MONTHLY MEAN												
	10.5	14.5	17.6	0.2	5.8	6.0	6.3	0.0	52.7	56.3	65.4	0.3

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AMGM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-APR-87 to 30-APR-87

DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
# 1-APR-87	11.7	12.0	12.5	0.0	90.7	92.7	96.7	0.0
# 2-APR-87	3.5	8.3	12.5	-3.7	48.9	88.8	136.0	-3.9
# 3-APR-87	7.0	8.5	9.1	0.2	89.1	129.1	137.0	40.3
# 4-APR-87	3.6	7.5	9.2	-1.0	46.6	112.6	143.0	-16.5
# 5-APR-87	3.9	8.0	9.3	0.5	52.8	122.7	144.0	10.1
# 6-APR-87	3.8	8.9	15.3	0.9	54.2	99.4	139.0	-23.3
# 7-APR-87	8.4	9.2	9.6	0.3	121.0	137.7	144.0	38.3
8-APR-87	9.4	9.5	9.6	0.3	142.0	144.1	147.0	6.4
9-APR-87	9.4	9.7	15.5	0.2	123.0	142.7	146.0	-1.4
# 10-APR-87	9.1	12.9	15.8	3.2	93.6	110.8	124.0	-31.9
# 11-APR-87	8.8	12.2	14.7	-0.7	106.0	114.1	122.0	3.3
# 12-APR-87	12.8	13.5	14.2	1.3	112.0	115.4	120.0	1.3
# 13-APR-87	12.7	13.1	13.6	-0.4	110.0	113.7	119.0	-1.7
# 14-APR-87	11.9	12.0	12.1	-1.1	93.9	97.3	102.0	-16.4
# 15-APR-87	11.7	11.8	12.0	-0.2	94.6	98.3	101.0	1.0
16-APR-87	11.5	11.7	11.8	-0.1	94.6	98.3	103.0	0.0
17-APR-87	11.5	11.6	11.7	-0.1	96.6	98.6	102.0	0.3
# 18-APR-87	11.4	11.4	11.6	-0.2	96.2	98.2	100.0	-0.4
19-APR-87	11.1	11.2	11.4	-0.2	97.2	99.4	104.0	1.2
20-APR-87	10.9	11.0	11.1	-0.2	98.1	100.9	105.0	1.5
21-APR-87	10.7	10.8	11.0	-0.2	98.8	101.5	105.0	0.6
22-APR-87	10.3	10.4	10.7	-0.4	96.9	99.9	104.0	-1.6
23-APR-87	10.0	10.2	10.4	-0.2	94.9	98.4	102.0	-1.5
24-APR-87	9.9	10.0	10.3	-0.2	93.4	95.9	100.0	-2.5
25-APR-87	9.8	10.1	10.3	0.1	90.8	95.1	101.0	-0.8
# 26-APR-87	9.9	10.2	10.3	0.1	92.5	97.7	101.0	2.6
27-APR-87	9.8	10.0	10.2	-0.2	91.0	96.1	101.0	-1.6
# 28-APR-87	9.9	10.1	10.3	0.1	91.6	96.7	101.0	0.6
29-APR-87	10.0	10.1	10.3	0.0	91.3	93.3	98.8	-3.4
30-APR-87	9.8	10.0	10.3	-0.1	88.2	91.5	95.2	-1.8
GRAND MONTHLY MEAN								
	9.5	10.5	11.6	-0.1	93.0	106.0	114.8	0.0

\# A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMOM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-MAY-87 to 31-MAY-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
1-MAY-87	8.6	9.4	10.1	0.0	7.0	7.0	7.1	0.0	74.2	79.7	82.0	0.0
2-MAY-87	9.0	9.5	9.8	0.1	7.0	7.0	7.1	0.0	74.2	97.8	113.0	18.1
3-MAY-87	9.8	10.4	10.9	0.9	7.1	7.1	7.1	0.1	113.0	121.6	128.0	23.8
4-MAY-87	10.1	10.9	11.3	0.5	7.0	7.0	7.1	-0.1	93.7	121.6	148.0	0.0
5-MAY-87	10.5	11.3	11.7	0.4	7.0	7.0	7.0	0.0	97.6	109.0	124.0	-12.6
6-MAY-87	10.1	10.2	10.5	-1.1	7.0	7.0	7.1	0.0	109.0	122.3	132.0	13.3
7-MAY-87	9.8	10.4	11.3	0.2	6.9	7.0	7.0	0.0	101.0	106.3	113.0	-16.0
# 8-MAY-87	11.3	11.3	11.3	0.9	7.0	7.0	7.1	0.0	109.0	118.9	124.0	12.6
# 9-MAY-87	11.7	12.1	12.5	0.8	7.0	7.0	7.1	0.0	109.0	118.7	124.0	-0.2
10-MAY-87	12.5	13.3	14.4	1.2	7.0	7.0	7.1	0.0	109.0	117.4	124.0	-1.3
# 11-MAY-87	13.2	13.7	14.0	0.4	7.0	7.1	7.1	0.1	109.0	119.5	124.0	2.1
12-MAY-87	13.2	13.5	13.6	-0.2	7.0	7.1	7.1	0.0	109.0	115.7	124.0	-3.8
# 13-MAY-87	12.1	12.8	13.6	-0.7	7.1	7.1	7.1	0.0	117.0	123.4	128.0	7.7
14-MAY-87	13.6	14.0	14.4	1.2	7.1	7.1	7.1	0.0	113.0	119.5	124.0	-3.9
# 15-MAY-87	14.0	14.0	14.0	0.0	7.1	7.1	7.1	0.0	121.0	123.0	124.0	3.5
# 16-MAY-87	****	****	****	*****	****	****	****	*****	******	******	******	*******
# 17-MAY-87	****	****	****	*****	****	****	****	*****	******	******	******	*******
GRAND MONTHLY MEAN	11.3	11.8	12.2	0.3	7.0	7.0	7.1	0.0	103.9	114.3	122.4	2.9

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AMGM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-MAY-87 to 31-MAY-87

20-Aug-87 ENVIRONMENT CANADA WATER QUALITY BRANCH - MONCTON Page 1 a

	DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
	1-MAY-87	10.1	10.3	10.6	0.0	90.1	93.5	97.1	0.0
	2-MAY-87	10.0	10.2	10.5	-0.1	89.6	93.1	96.4	-0.4
	3-MAY-87	10.0	10.1	10.4	-0.1	92.3	94.6	95.9	1.5
	4-MAY-87	9.8	10.0	10.3	-0.1	90.8	94.8	98.8	0.2
	5-MAY-87	9.7	9.9	10.3	-0.1	90.3	94.6	98.0	-0.2
	6-MAY-87	9.8	9.8	9.9	-0.1	90.1	90.8	92.5	-3.8
	7-MAY-87	9.8	9.9	10.1	0.1	89.2	92.6	95.8	1.8
#	8-MAY-87	9.9	10.0	10.1	0.1	94.3	95.8	96.5	3.2
#	9-MAY-87	9.6	9.8	10.0	-0.2	92.2	94.8	97.0	-1.0
	10-MAY-87	9.5	9.7	10.0	-0.1	94.1	96.9	99.5	2.1
#	11-MAY-87	9.5	9.7	10.0	0.0	95.0	97.2	101.0	0.3
	12-MAY-87	9.2	9.5	9.9	-0.2	91.9	95.7	99.7	-1.5
#	13-MAY-87	9.5	9.6	9.8	0.1	91.5	95.0	98.9	-0.7
	14-MAY-87	9.4	9.6	9.9	0.0	95.9	97.9	100.0	2.9
#	15-MAY-87	9.7	9.7	9.8	0.1	98.3	98.8	99.0	0.9
#	16-MAY-87	****	****	****	*****	*****	*****	*****	******
#	17-MAY-87	****	****	****	*****	*****	*****	*****	******
	GRAND MONTHLY MEAN	9.7	9.9	10.1	0.0	92.4	95.1	97.7	0.4

\# A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMON VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-JUN-87 to 30-JUN-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
# 1-JUN-87	19.1	20.6	21.4	0.0	6.9	6.9	7.0	0.0	117.0	124.9	136.0	0.0
2-JUN-87	20.7	21.0	21.4	0.4	6.9	6.9	6.9	0.0	121.0	130.5	136.0	5.6
3-JUN-87	20.3	20.8	21.0	-0.2	6.9	6.9	6.9	0.0	121.0	123.3	128.0	-7.2
# 4-JUN-87	18.3	19.6	20.3	-1.2	6.9	6.9	6.9	0.0	121.0	122.9	128.0	-0.4
5-JUN-87	17.1	17.4	18.3	-2.2	6.9	6.9	6.9	0.0	117.0	123.6	128.0	0.7
6-JUN-87	17.1	17.4	17.9	0.0	6.9	6.9	7.0	0.0	113.0	117.3	121.0	-6.3
7-JUN-87	17.5	18.1	18.7	0.7	7.0	7.0	7.0	0.1	113.0	116.5	117.0	-0.8
8-JUN-87	17.9	18.3	18.7	0.2	7.0	7.0	7.1	0.0	117.0	124.5	128.0	8.0
9-JUN-87	17.1	17.4	17.9	-0.9	6.9	6.9	7.0	-0.1	105.0	114.0	128.0	-10.5
10-JUN-87	16.4	16.8	17.1	-0.6	6.9	6.9	6.9	0.0	109.0	113.0	121.0	-1.0
11-JUN-87	16.4	17.1	17.9	0.3	6.9	6.9	6.9	0.0	85.9	90.9	105.0	-22.1
12-JUN-87	16.7	17.7	18.7	0.6	6.8	6.9	7.0	0.0	78.1	90.3	109.0	-0.6
# 13-JUN-87	17.1	17.1	17.1	-0.6	6.8	6.8	6.9	-0.1	82.0	85.9	89.8	-4.4
# 14-JUN-87	17.5	18.3	19.5	1.2	6.8	6.8	6.9	0.0	82.0	83.1	89.8	-2.8
# 15-JUN-87	17.5	18.2	19.9	-0.1	6.9	6.9	6.9	0.1	78.1	82.4	85.9	-0.7
16-JUN-87	18.3	19.2	19.9	1.0	6.9	6.9	7.0	0.0	78.1	80.5	82.0	-1.9
17-JUN-87	19.5	19.9	20.3	0.7	6.9	6.9	6.9	0.0	82.0	92.4	105.0	11.9
18-JUN-87	19.9	20.4	21.0	0.5	6.9	6.9	7.0	0.0	105.0	112.3	117.0	19.9
# 19-JUN-87	20.7	20.8	21.0	0.4	6.9	7.0	7.0	0.1	113.0	116.3	117.0	4.0
# 20-JUN-87	21.0	21.1	21.4	0.3	6.9	6.9	6.9	-0.1	113.0	116.1	121.0	-0.2
# 21-JUN-87	21.0	21.4	21.8	0.3	6.9	6.9	7.0	0.0	109.0	118.7	124.0	2.6
22-JUN-87	21.8	22.0	22.2	0.6	6.9	6.9	6.9	0.0	101.0	106.7	113.0	-12.0
23-JUN-87	21.4	21.6	21.8	-0.4	6.9	6.9	6.9	0.0	109.0	112.0	113.0	5.3
# 24-JUN-87	21.0	21.6	22.2	0.0	6.9	6.9	7.0	0.0	105.0	109.7	113.0	-2.3
25-JUN-87	21.8	22.1	22.6	0.5	6.9	6.9	7.0	0.0	101.0	104.2	109.0	-5.5
26-JUN-87	20.7	21.5	21.8	-0.6	6.9	6.9	7.0	0.0	109.0	114.2	117.0	10.0
27-JUN-87	19.5	20.2	20.7	-1.3	6.9	7.0	7.0	0.1	113.0	120.1	128.0	5.9
28-JUN-87	19.5	19.7	20.3	-0.5	7.0	7.0	7.1	0.0	109.0	118.4	124.0	-1.7
29-JUN-87	20.3	21.0	21.4	1.3	6.9	6.9	7.0	-0.1	101.0	106.8	109.0	-11.6
30-JUN-87	20.7	21.3	21.8	0.3	6.9	6.9	7.0	0.0	89.8	98.2	105.0	-8.6
GRAND MONTHLY MEAN												
	19.1	19.7	20.2	0.0	6.9	6.9	7.0	0.0	103.3	109.0	114.9	-0.9

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AWQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-JUN-87 to 30-JUN-87

	DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
#	1-JUN-87	7.6	7.8	8.2	0.0	90.0	92.2	95.0	0.0
	2-JUN-87	7.3	7.5	7.7	-0.3	86.2	89.1	91.8	-3.1
	3-JUN-87	7.4	7.6	7.9	0.1	87.4	90.3	93.7	1.2
#	4-JUN-87	7.4	7.6	8.0	0.0	83.8	87.7	93.1	-2.6
	5-JUN-87	7.6	7.7	7.9	0.1	82.6	84.4	86.8	-3.3
	6-JUN-87	7.7	7.9	8.2	0.2	83.4	86.5	91.0	2.1
	7-JUN-87	8.1	8.2	8.3	0.3	88.6	91.0	93.5	4.5
	8-JUN-87	7.7	8.1	8.4	-0.1	85.6	90.2	93.6	-0.8
	9-JUN-87	7.7	7.8	8.1	-0.3	83.4	85.7	88.6	-4.5
	10-JUN-87	7.7	7.9	8.3	0.1	83.4	85.4	90.3	-0.3
	11-JUN-87	8.1	8.3	8.6	0.4	87.0	90.1	95.3	4.7
	12-JUN-87	8.0	8.2	8.6	-0.1	86.9	90.3	96.2	0.2
#	13-JUN-87	8.0	8.1	8.1	-0.1	86.9	88.2	88.5	-2.1
#	14-JUN-87	7.9	8.1	8.5	0.0	86.8	90.4	94.4	2.2
#	15-JUN-87	8.3	8.5	8.7	0.4	91.1	94.7	100.0	4.3
	16-JUN-87	8.3	8.5	8.7	0.0	93.5	97.1	100.0	2.4
	17-JUN-87	7.9	8.2	8.7	-0.3	92.2	95.5	99.6	-1.6
	18-JUN-87	7.7	7.9	8.1	-0.3	91.0	92.7	94.8	-2.8
#	19-JUN-87	7.6	7.8	8.1	-0.1	90.0	92.7	94.8	0.0
#	20-JUN-87	7.6	7.7	7.8	-0.1	90.0	91.4	92.8	-1.3
#	21-JUN-87	7.3	7.5	7.7	-0.2	86.9	89.6	92.6	-1.8
	22-JUN-87	7.5	7.7	8.0	0.2	90.6	93.5	96.2	3.9
	23-JUN-87	7.7	7.8	8.1	0.1	91.6	94.1	97.2	0.6
#	24-JUN-87	7.7	7.8	8.0	0.0	90.9	93.8	97.0	-0.3
	25-JUN-87	7.5	7.8	8.1	0.0	90.6	94.6	98.8	0.8
	26-JUN-87	7.6	7.7	7.9	-0.1	89.3	92.5	95.3	-2.1
	27-JUN-87	7.7	7.9	8.0	0.2	90.1	91.6	92.3	-0.9
	28-JUN-87	7.9	8.1	8.2	0.2	91.4	93.3	95.0	1.7
	29-JUN-87	7.8	8.0	8.1	-0.1	92.0	94.3	97.2	1.0
	30-JUN-87	7.7	7.9	8.2	-0.1	91.0	94.7	98.2	0.4
	GRAND MONTHLY MEAN	7.7	7.9	8.2	0.0	88.5	91.3	94.5	0.1

\# A day with less than 24 values.

**** No data values for that day.

a A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-JUL-87 to 31-JUL-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
1-JUL-87	21.0	21.6	21.8	0.0	6.9	6.9	7.0	0.0	93.7	105.8	109.0	0.0
# 2-JUL-87	21.0	21.5	22.2	-0.1	6.9	7.0	7.0	0.1	105.0	110.6	113.0	4.8
3-JUL-87	21.0	21.9	22.2	0.4	6.9	6.9	7.0	-0.1	105.0	108.0	113.0	-2.6
4-JUL-87	19.9	20.4	21.0	-1.5	6.9	6.9	6.9	0.0	105.0	105.3	109.0	-2.7
# 5-JUL-87	19.5	20.3	21.0	-0.1	6.9	6.9	7.0	0.0	105.0	108.6	113.0	3.3
# 6-JUL-87	21.0	21.4	22.2	1.1	6.9	7.0	7.0	0.1	109.0	111.9	113.0	3.3
# 7-JUL-87	22.6	22.9	23.0	1.5	6.9	7.0	7.1	0.0	113.0	118.8	124.0	6.9
8-JUL-87	21.4	22.3	23.0	-0.6	6.9	7.0	7.1	0.0	97.6	108.8	117.0	-10.0
# 9-JUL-87	21.4	21.4	21.4	-0.9	6.9	6.9	6.9	-0.1	97.6	98.7	101.0	-10.1
# 10-JUL-87	22.6	22.9	23.0	1.5	6.8	6.9	6.9	0.0	109.0	109.9	113.0	11.2
# 11-JUL-87	23.0	23.2	23.4	0.3	6.8	6.8	6.9	-0.1	109.0	109.0	109.0	-0.9
# 14-JUL-87	23.0	23.2	23.4	0.0	6.9	6.9	6.9	0.1	136.0	138.0	140.0	29.0
# 15-JUL-87	21.8	22.2	22.6	-1.0	6.9	6.9	7.0	0.0	128.0	132.4	140.0	-5.6
# 16-JUL-87	22.2	22.7	23.0	0.5	6.9	7.0	7.0	0.1	136.0	140.4	144.0	8.0
17-JUL-87	22.6	23.2	24.2	0.5	6.9	7.0	7.0	0.0	121.0	129.3	136.0	-11.1
# 18-JUL-87	23.8	23.9	24.2	0.7	6.9	6.9	6.9	-0.1	121.0	121.0	121.0	-8.3
# 19-JUL-87	23.8	24.2	24.6	0.3	6.9	6.9	6.9	0.0	128.0	130.0	132.0	9.0
20-JUL-87	23.4	23.9	24.2	-0.3	6.9	6.9	7.0	0.0	128.0	130.5	136.0	0.5
21-JUL-87	21.8	22.4	23.0	-1.5	6.9	6.9	6.9	0.0	128.0	131.0	132.0	0.5
22-JUL-87	21.0	21.2	21.4	-1.2	6.8	6.9	6.9	0.0	124.0	131.3	140.0	0.3
23-JUL-87	21.4	22.0	22.6	0.8	6.8	6.8	6.9	-0.1	105.0	116.2	140.0	-15.1
24-JUL-87	22.6	22.8	23.0	0.8	6.8	6.9	6.9	0.1	113.0	128.1	140.0	11.9
# 25-JUL-87	22.2	22.5	22.6	-0.3	6.9	6.9	6.9	0.0	136.0	139.6	140.0	11.5
# 26-JUL-87	23.8	24.1	24.6	1.6	6.9	6.9	6.9	0.0	144.0	146.4	148.0	6.8
27-JUL-87	21.8	22.6	23.4	-1.5	6.9	6.9	7.0	0.0	144.0	146.2	148.0	-0.2
28-JUL-87	21.8	22.3	23.0	-0.3	6.9	7.0	7.1	0.1	140.0	141.3	144.0	-4.9
29-JUL-87	21.8	22.4	23.4	0.1	6.9	7.0	7.0	0.0	136.0	142.0	148.0	0.7
# 30-JUL-87	22.6	22.6	22.6	0.2	6.9	6.9	7.0	-0.1	144.0	146.0	148.0	4.0
# 31-JUL-87	21.4	22.1	23.0	-0.5	7.0	7.0	7.0	0.1	148.0	149.8	152.0	3.8
GRAND MONTHLY MEAN												
	22.0	22.4	22.9	0.0	6.9	6.9	7.0	0.0	121.0	125.3	129.8	1.5

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AWQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-JUL-87 to 31-JUL-87

	DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
	1-JUL-87	7.7	7.9	8.0	0.0	92.6	94.4	96.2	0.0
#	2-JUL-87	7.7	7.9	8.1	0.0	92.8	94.3	96.4	-0.1
	3-JUL-87	7.4	7.7	8.0	-0.2	88.9	92.7	97.0	-1.6
	4-JUL-87	7.3	7.5	7.7	-0.2	85.0	87.7	90.9	-5.0
#	5-JUL-87	7.4	7.6	7.7	0.1	85.9	88.4	91.8	0.7
#	6-JUL-87	7.4	7.6	7.7	0.0	90.3	91.5	92.6	3.1
#	7-JUL-87	7.2	7.4	7.7	-0.2	89.0	90.8	94.7	-0.7
	8-JUL-87	7.2	7.4	7.7	0.0	86.1	89.7	94.7	-1.1
#	9-JUL-87	7.5	7.6	7.7	0.2	89.8	90.9	92.6	1.2
#	10-JUL-87	7.0	7.2	7.6	-0.4	87.0	89.1	93.8	-1.8
#	11-JUL-87	7.1	7.2	7.3	0.0	88.0	89.7	91.6	0.6
#	14-JUL-87	6.4	6.5	6.6	-0.7	79.3	80.6	82.8	-9.1
#	15-JUL-87	6.4	6.6	7.0	0.1	78.7	80.0	84.6	-0.6
#	16-JUL-87	6.7	6.8	7.0	0.2	83.2	84.1	86.0	4.1
	17-JUL-87	6.7	7.0	7.3	0.2	83.8	87.1	89.8	3.0
#	18-JUL-87	7.0	7.2	7.3	0.2	88.4	90.3	92.0	3.2
#	19-JUL-87	7.0	7.0	7.2	-0.2	88.4	89.2	90.4	-1.1
	20-JUL-87	6.6	6.9	7.2	-0.1	81.8	87.3	91.2	-1.9
	21-JUL-87	6.5	6.7	7.0	-0.2	78.2	82.3	85.3	-5.0
	22-JUL-87	6.5	6.7	6.9	0.0	77.6	79.5	82.3	-2.8
	23-JUL-87	6.7	6.8	7.0	0.1	81.1	83.0	84.3	3.5
	24-JUL-87	6.7	7.0	7.1	0.2	83.2	85.8	88.0	2.8
#	25-JUL-87	6.7	6.9	7.0	-0.1	82.5	84.2	86.3	-1.6
#	26-JUL-87	6.5	6.8	7.0	-0.1	81.5	85.8	89.1	1.6
	27-JUL-87	6.4	6.8	7.0	0.0	80.0	83.3	85.3	-2.5
	28-JUL-87	7.0	7.2	7.3	0.4	85.9	87.6	89.4	4.3
	29-JUL-87	6.9	7.1	7.3	-0.1	85.0	87.1	88.7	-0.5
#	30-JUL-87	6.9	7.0	7.2	-0.1	84.3	86.0	88.3	-1.1
#	31-JUL-87	7.0	7.1	7.2	0.1	84.6	86.5	88.3	0.5
	GRAND MONTHLY MEAN	6.9	7.1	7.3	0.0	84.9	87.2	89.8	-0.3

\# A day with less than 24 values.

**** No data values for that day.

a A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

Note: Tables constructed from edited data.

SUMMARY OF DAILY AMOM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-AUG-87 to 31-AUG-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
1-AUG-87	21.8	22.1	22.6	0.0	7.0	7.0	7.0	0.0	140.0	147.2	148.0	0.0
# 2-AUG-87	20.7	21.6	22.6	-0.5	6.9	7.0	7.0	0.0	132.0	135.4	140.0	-11.8
# 3-AUG-87	20.7	21.8	22.2	0.2	6.9	7.0	7.0	0.0	140.0	142.4	144.0	7.0
4-AUG-87	19.5	20.4	22.2	-1.4	6.9	6.9	6.9	-0.1	136.0	140.5	144.0	-1.9
5-AUG-87	21.8	23.3	24.2	2.9	6.9	6.9	7.0	0.0	140.0	142.7	148.0	2.2
6-AUG-87	22.2	22.7	23.4	-0.6	6.9	7.0	7.0	0.1	140.0	143.3	148.0	0.6
7-AUG-87	22.2	22.7	23.4	0.0	7.0	7.0	7.1	0.0	140.0	143.0	144.0	-0.3
8-AUG-87	20.7	22.0	22.6	-0.7	6.9	7.0	7.1	0.0	140.0	143.0	144.0	0.0
# 9-AUG-87	19.9	20.8	21.8	-1.2	6.9	6.9	7.0	-0.1	140.0	142.0	144.0	-1.0
10-AUG-87	21.4	22.4	23.0	1.6	6.9	6.9	7.0	0.0	144.0	145.5	152.0	3.5
11-AUG-87	22.2	22.3	22.6	-0.1	6.9	7.0	7.0	0.1	144.0	146.5	152.0	1.0
12-AUG-87	21.4	21.6	21.8	-0.7	6.9	7.0	7.0	0.0	140.0	144.8	148.0	-1.7
# 13-AUG-87	21.4	21.9	23.0	0.3	6.9	7.0	7.0	0.0	144.0	145.6	148.0	0.8
14-AUG-87	22.2	22.5	23.4	0.6	6.9	7.0	7.1	0.0	136.0	142.0	148.0	-3.6
15-AUG-87	22.2	22.7	23.4	0.2	6.9	7.0	7.0	0.0	132.0	140.3	148.0	-1.7
# 16-AUG-87	23.0	23.9	25.0	1.2	6.9	6.9	7.0	-0.1	132.0	136.8	140.0	-3.5
17-AUG-87	24.2	24.8	25.7	0.9	6.9	6.9	6.9	0.0	136.0	137.8	140.0	1.0
18-AUG-87	23.8	24.7	25.3	-0.1	6.7	6.8	6.9	-0.1	97.6	116.2	136.0	-21.6
19-AUG-87	23.8	24.6	25.3	-0.1	6.8	6.8	6.9	0.0	93.7	98.9	105.0	-17.3
20-AUG-87	24.2	24.9	25.3	0.3	6.8	6.9	6.9	0.1	93.7	97.4	109.0	-1.5
21-AUG-87	23.8	24.2	25.0	-0.7	6.8	6.9	7.0	0.0	113.0	137.8	152.0	40.4
22-AUG-87	23.0	23.4	23.8	-0.8	6.9	7.0	7.0	0.1	152.0	152.2	156.0	14.4
23-AUG-87	21.8	22.3	22.6	-1.1	7.0	7.0	7.1	0.0	152.0	156.2	160.0	4.0
24-AUG-87	20.3	21.1	21.8	-1.2	6.9	7.0	7.1	0.0	160.0	161.3	164.0	5.1
# 25-AUG-87	19.5	19.8	20.3	-1.3	7.0	7.1	7.1	0.1	164.0	164.2	167.0	2.9
26-AUG-87	19.1	19.6	20.3	-0.2	7.0	7.0	7.1	-0.1	156.0	161.3	167.0	-2.9
27-AUG-87	19.5	20.1	21.0	0.5	7.0	7.0	7.1	0.0	152.0	153.2	156.0	-8.1
28-AUG-87	19.5	20.2	21.0	0.1	6.9	7.0	7.1	0.0	148.0	150.3	152.0	-2.9
# 29-AUG-87	19.1	19.7	20.3	-0.5	6.9	7.0	7.0	0.0	148.0	149.3	152.0	-1.0
# 30-AUG-87	17.9	19.0	19.9	-0.7	6.8	6.9	7.0	-0.1	144.0	146.4	152.0	-2.9
31-AUG-87	19.5	20.5	21.4	1.5	6.8	6.9	7.0	0.0	140.0	142.0	144.0	-4.4
GRAND MONTHLY MEAN	21.4	22.1	22.8	-0.1	6.9	7.0	7.0	0.0	137.7	142.1	146.8	-0.2

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AMOM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-AUG-87 to 31-AUG-87

01-Sep-87 ENVIRONMENT CANADA WATER QUALITY BRANCH - MONCTON

	DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
	1-AUG-87	7.0	7.0	7.0	0.0	84.6	84.8	84.9	0.0
@	2-AUG-87	7.0	7.1	7.3	0.1	83.9	85.8	87.3	1.0
@	3-AUG-87	6.6	6.9	7.3	-0.2	78.9	83.8	88.4	-2.0
	4-AUG-87	5.9	6.8	7.0	-0.1	70.7	79.2	83.6	-4.6
	5-AUG-87	5.6	6.9	7.0	0.1	67.8	86.4	88.4	7.2
	6-AUG-87	6.9	7.1	7.3	0.2	85.0	87.1	88.4	0.7
	7-AUG-87	6.9	7.1	7.3	0.0	84.3	87.2	89.1	0.1
	8-AUG-87	6.7	6.8	7.0	-0.3	80.5	82.7	85.6	-4.5
@	9-AUG-87	6.6	6.8	7.0	0.0	76.6	80.6	83.9	-2.1
	10-AUG-87	6.3	6.9	7.0	0.1	78.3	84.0	85.6	3.4
	11-AUG-87	6.6	6.8	6.9	-0.1	80.8	82.9	83.6	-1.1
	12-AUG-87	6.7	6.8	7.0	0.0	81.1	82.3	83.2	-0.6
@	13-AUG-87	6.6	6.7	6.9	-0.1	80.5	81.9	83.2	-0.4
	14-AUG-87	6.5	6.8	7.0	0.1	79.5	83.4	85.6	1.5
	15-AUG-87	6.3	6.7	7.0	-0.1	77.3	82.3	85.3	-1.1
@	16-AUG-87	6.0	6.4	6.8	-0.3	76.8	80.8	84.1	-1.5
	17-AUG-87	6.1	6.4	6.6	0.0	77.2	82.1	84.9	1.3
	18-AUG-87	5.9	6.4	7.0	0.0	74.7	81.8	90.6	-0.3
	19-AUG-87	6.5	6.8	7.3	0.4	81.5	87.6	95.3	5.8
	20-AUG-87	6.4	6.9	7.3	0.1	82.6	88.5	93.5	0.9
	21-AUG-87	6.3	6.5	6.7	-0.4	78.6	82.7	85.6	-5.8
	22-AUG-87	6.3	6.6	6.7	0.1	78.6	81.9	83.8	-0.8
	23-AUG-87	6.5	6.7	6.9	0.1	78.2	81.6	84.3	-0.3
	24-AUG-87	6.5	6.8	7.0	0.1	78.2	81.4	83.2	-0.2
@	25-AUG-87	6.8	7.1	7.3	0.3	79.4	82.1	84.1	0.7
	26-AUG-87	6.8	7.1	7.3	0.0	78.8	81.7	84.3	-0.4
	27-AUG-87	6.7	7.0	7.3	-0.1	78.5	81.9	84.4	0.2
	28-AUG-87	6.6	7.0	7.2	0.0	77.5	81.7	83.7	-0.2
@	29-AUG-87	6.5	6.9	7.2	-0.1	73.8	79.4	82.6	-2.3
@	30-AUG-87	6.5	6.7	7.0	-0.2	73.2	76.3	81.4	-3.1
	31-AUG-87	6.6	6.9	7.1	0.2	78.1	81.2	83.2	4.9
	GRAND MONTHLY MEAN	6.5	6.8	7.1	0.0	78.6	82.8	85.6	-0.1

@ A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AWQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-SEP-87 to 30-SEP-87

01-Oct-87 ENVIRONMENT CANADA WATER QUALITY BRANCH - MONCTON

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
1-SEP-87	19.5	20.2	20.7	0.0	6.9	6.9	7.0	0.0	113.3	129.9	140.6	0.0
@ 2-SEP-87	19.1	19.2	19.5	-1.0	6.8	6.8	6.9	-0.1	85.9	98.8	109.4	-31.1
@ 3-SEP-87	17.6	18.5	19.1	-0.7	6.9	6.9	7.0	0.1	82.0	83.6	85.9	-15.2
4-SEP-87	17.6	18.2	18.4	-0.3	6.9	6.9	7.0	0.0	78.1	84.3	85.9	0.7
@ 5-SEP-87	18.4	18.4	18.4	0.2	6.9	7.0	7.0	0.1	70.3	74.2	78.1	-10.1
@ 6-SEP-87	18.7	19.1	19.5	0.7	6.8	6.9	6.9	-0.1	66.4	67.3	70.3	-6.9
7-SEP-87	18.4	18.9	19.9	-0.2	6.8	6.9	6.9	0.0	58.6	60.4	66.4	-6.9
8-SEP-87	19.5	20.0	20.7	1.1	6.7	6.8	6.9	-0.1	50.8	53.2	58.6	-7.2
9-SEP-87	19.1	19.7	19.9	-0.3	6.7	6.8	6.8	0.0	46.9	47.5	50.8	-5.7
10-SEP-87	18.7	18.8	19.1	-0.9	6.7	6.8	6.8	0.0	43.0	45.4	46.9	-2.1
11-SEP-87	18.7	18.8	19.1	0.0	6.7	6.8	6.8	0.0	43.0	43.4	46.9	-2.0
12-SEP-87	18.4	18.8	19.1	0.0	6.7	6.8	6.9	0.0	46.9	57.3	66.4	13.9
13-SEP-87	18.4	18.7	18.7	-0.1	6.8	6.9	7.0	0.1	66.4	75.7	93.7	18.4
14-SEP-87	17.6	17.8	18.0	-0.9	6.9	7.0	7.1	0.1	93.7	113.1	125.0	37.4
@ 15-SEP-87	17.6	18.2	19.1	0.4	7.0	7.1	7.1	0.1	125.0	127.6	128.9	14.5
16-SEP-87	18.4	19.0	19.9	0.8	7.0	7.1	7.2	0.0	128.9	129.5	132.8	1.9
@ 17-SEP-87	18.4	18.8	19.5	-0.2	7.1	7.1	7.2	0.0	125.0	127.8	132.8	-1.7
@ 18-SEP-87	18.4	18.5	18.7	-0.3	7.1	7.1	7.1	0.0	125.0	126.9	128.9	-0.9
@ 19-SEP-87	16.4	16.7	16.8	-1.8	7.1	7.1	7.2	0.0	128.9	132.6	132.8	5.7
20-SEP-87	16.0	16.1	16.4	-0.6	7.1	7.1	7.2	0.0	128.9	131.8	132.8	-0.8
21-SEP-87	15.2	15.5	15.6	-0.6	7.1	7.1	7.1	0.0	109.4	122.2	128.9	-9.6
22-SEP-87	15.2	15.5	15.6	0.0	6.9	6.9	7.1	-0.2	82.0	89.0	109.4	-33.2
23-SEP-87	15.2	15.7	16.4	0.2	6.9	7.2	7.5	0.3	78.1	82.3	85.9	-6.7
24-SEP-87	15.2	15.8	16.4	0.1	6.9	6.9	7.0	-0.3	78.1	78.1	78.1	-4.2
@ 25-SEP-87	14.1	14.7	15.6	-1.1	6.9	6.9	7.0	0.0	78.1	78.1	78.1	0.0
@ 26-SEP-87	13.3	14.0	14.8	-0.7	7.0	7.0	7.0	0.1	78.1	79.9	82.0	1.8
@ 28-SEP-87	12.9	13.4	14.1	-0.6	7.0	7.0	7.0	0.0	89.8	89.8	89.8	9.9
29-SEP-87	13.7	14.4	15.2	1.0	6.9	6.9	7.0	-0.1	85.9	88.0	89.8	-1.8
30-SEP-87	14.1	14.8	15.2	0.4	6.9	6.9	6.9	0.0	82.0	85.8	89.8	-2.2
GRAND MONTHLY MEAN	17.0	17.5	17.9	-0.2	6.9	7.0	7.0	0.0	85.1	89.8	94.7	-1.5

@ A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY ANQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-SEP-87 to 30-SEP-87

	DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
	1-SEP-87	6.6	7.0	7.2	0.0	77.2	81.2	84.0	0.0
#	2-SEP-87	6.7	6.9	7.1	-0.1	76.6	78.5	81.0	-2.7
#	3-SEP-87	7.1	7.3	7.4	0.4	80.3	82.2	83.6	3.7
	4-SEP-87	7.1	7.3	7.4	0.0	79.6	81.5	83.1	-0.7
#	5-SEP-87	7.6	7.6	7.7	0.3	84.9	85.3	85.7	3.8
#	6-SEP-87	7.2	7.4	7.6	-0.2	81.2	83.6	85.6	-1.7
	7-SEP-87	7.2	8.0	8.2	0.6	81.2	90.5	95.0	6.9
	8-SEP-87	7.6	7.9	8.2	-0.1	87.8	92.0	95.0	1.5
	9-SEP-87	7.6	7.8	8.0	-0.1	86.4	90.1	91.6	-1.9
	10-SEP-87	7.6	7.8	7.9	0.0	86.4	87.7	89.1	-2.4
	11-SEP-87	7.6	7.9	8.1	0.1	85.6	89.2	91.7	1.5
	12-SEP-87	7.6	7.7	7.9	-0.2	85.6	87.6	89.9	-1.6
	13-SEP-87	7.5	7.8	7.9	0.1	84.0	87.9	89.1	0.3
	14-SEP-87	7.4	7.7	8.0	-0.1	82.4	85.4	87.7	-2.5
#	15-SEP-87	7.6	7.7	7.9	0.0	83.4	86.4	89.9	1.0
	16-SEP-87	7.5	7.8	8.0	0.1	85.5	88.5	91.4	2.1
#	17-SEP-87	7.5	7.8	8.0	0.0	84.7	88.1	90.8	-0.4
#	18-SEP-87	7.5	7.6	7.7	-0.2	84.7	85.8	86.6	-2.3
#	19-SEP-87	7.6	7.8	7.9	0.2	81.2	84.0	85.3	-1.8
	20-SEP-87	7.7	7.8	8.0	0.0	82.0	83.2	84.7	-0.8
	21-SEP-87	7.8	8.0	8.1	0.2	82.2	84.4	85.5	1.2
	22-SEP-87	7.8	8.0	8.2	0.0	81.5	83.7	86.3	-0.7
	23-SEP-87	7.9	8.0	8.3	0.0	82.3	84.8	88.7	1.1
	24-SEP-87	8.0	8.2	8.4	0.2	83.2	86.4	89.7	1.6
#	25-SEP-87	8.1	8.3	8.5	0.1	82.4	85.4	88.0	-1.0
#	26-SEP-87	8.2	8.3	8.5	0.0	81.7	84.6	88.0	-0.8
#	28-SEP-87	8.4	8.6	8.7	0.3	83.3	85.5	88.0	0.9
	29-SEP-87	8.4	8.5	8.8	-0.1	84.1	87.4	90.5	1.9
	30-SEP-87	8.4	8.5	8.7	0.0	85.7	87.9	90.5	0.5
	GRAND MONTHLY MEAN	7.6	7.8	8.0	0.1	83.0	85.8	88.1	0.2

\# A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMOM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-OCT-87 to 31-OCT-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
1-OCT-87	14.1	14.3	14.5	0.0	6.8	7.1	7.7	0.0	78.1	87.4	109.4	0.0
2-OCT-87	12.9	13.7	14.5	-0.6	6.8	6.8	6.9	-0.3	78.1	85.9	93.7	-1.5
# 3-OCT-87	13.7	14.2	14.5	0.5	6.8	6.8	6.9	0.0	93.7	94.3	97.6	8.4
4-OCT-87	14.8	14.8	14.8	0.6	6.8	6.8	6.9	0.0	93.7	96.7	97.6	2.4
5-OCT-87	13.3	14.1	14.8	-0.7	6.8	6.9	7.0	0.1	97.6	99.4	101.6	2.7
6-OCT-87	13.3	14.0	14.5	-0.1	6.9	6.9	7.0	0.0	97.6	98.9	101.6	-0.5
7-OCT-87	13.7	14.3	14.8	0.3	6.8	6.9	6.9	0.0	93.7	95.2	97.6	-3.7
8-OCT-87	14.1	14.5	14.8	0.2	6.8	6.8	6.9	-0.1	93.7	98.3	101.6	3.1
9-OCT-87	12.5	13.5	14.5	-1.0	6.8	6.9	6.9	0.1	97.6	100.4	101.6	2.1
10-OCT-87	12.5	13.0	13.3	-0.5	6.8	6.8	6.9	-0.1	85.9	90.2	97.6	-10.2
# 11-OCT-87	11.7	12.2	13.3	-0.8	6.9	6.9	6.9	0.1	85.9	85.9	85.9	-4.3
# 12-OCT-87	10.9	11.3	11.7	-0.9	6.9	6.9	6.9	0.0	85.9	88.7	89.8	2.8
# 13-OCT-87	10.6	11.1	11.7	-0.2	6.9	6.9	6.9	0.0	85.9	85.9	85.9	-2.8
14-OCT-87	10.2	10.9	11.3	-0.2	5.4	6.8	6.9	-0.1	85.9	92.4	97.6	6.5
15-OCT-87	10.6	10.9	10.9	0.0	6.5	6.6	6.7	-0.2	89.8	100.9	117.2	8.5
16-OCT-87	10.6	11.1	11.7	0.2	6.7	6.7	6.7	0.1	105.5	114.9	136.7	14.0
17-OCT-87	10.6	11.0	11.3	-0.1	6.7	6.7	6.8	0.0	97.6	110.2	136.7	-4.7
18-OCT-87	10.9	11.2	11.3	0.2	6.6	6.6	6.7	-0.1	89.8	91.1	97.6	-19.1
# 19-OCT-87	10.6	10.7	10.9	-0.5	6.6	6.6	6.7	0.0	93.7	98.9	101.6	7.8
# 20-OCT-87	10.2	10.5	10.9	-0.2	6.6	6.6	6.7	0.0	93.7	98.8	101.6	-0.1
21-OCT-87	10.6	10.7	10.9	0.2	6.6	6.6	6.7	0.0	93.7	96.7	109.4	-2.1
22-OCT-87	9.4	10.2	10.9	-0.5	6.7	6.7	6.7	0.1	97.6	106.1	117.2	9.4
23-OCT-87	8.2	8.8	9.4	-1.4	6.7	6.7	6.7	0.0	97.6	100.2	105.5	-5.9
24-OCT-87	9.0	9.3	10.2	0.5	6.7	6.7	6.7	0.0	105.5	105.4	105.5	5.2
25-OCT-87	9.8	10.1	10.2	0.8	6.7	6.7	6.7	0.0	105.5	106.6	109.4	1.2
26-OCT-87	8.6	9.1	9.8	-1.0	6.7	6.7	6.7	0.0	105.5	109.4	113.3	2.8
# 27-OCT-87	8.6	8.9	9.4	-0.2	6.7	6.7	6.7	0.0	105.5	110.0	113.3	0.6
28-OCT-87	9.0	9.1	9.8	0.2	6.7	6.7	6.7	0.0	101.6	105.6	109.4	-4.4
# 29-OCT-87	9.8	10.1	10.2	1.0	6.7	6.7	6.7	0.0	101.6	101.6	101.6	-4.0
# 30-OCT-87	8.2	8.5	9.0	-1.6	6.7	6.7	6.7	0.0	101.6	102.9	109.4	1.3
31-OCT-87	8.6	8.8	9.0	0.3	6.7	6.7	6.7	0.0	101.6	106.1	113.3	3.2
GRAND MONTHLY MEAN												
	11.0	11.4	11.9	-0.2	6.7	6.8	6.8	0.0	94.9	98.9	105.1	0.6

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AWQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-OCT-87 to 31-OCT-87

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	DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
	1-OCT-87	7.7	8.1	8.5	0.0	77.7	82.3	87.2	0.0
	2-OCT-87	8.0	8.2	8.4	0.1	79.4	82.1	86.5	-0.2
#	3-OCT-87	8.2	8.3	8.4	0.1	82.5	84.6	86.5	2.5
	4-OCT-87	8.2	8.3	8.4	0.0	84.8	86.0	87.3	1.4
	5-OCT-87	8.0	8.3	9.0	0.0	80.2	84.7	92.0	-1.3
	6-OCT-87	8.6	8.8	9.0	0.5	86.4	89.4	92.0	4.7
	7-OCT-87	8.7	8.8	9.0	0.0	87.2	90.0	92.9	0.6
	8-OCT-87	8.7	8.8	8.9	0.0	88.0	89.9	92.0	-0.1
	9-OCT-87	8.6	8.8	9.2	0.0	86.4	88.6	91.9	-1.3
	10-OCT-87	8.9	9.1	9.3	0.3	87.1	89.7	92.7	1.1
#	11-OCT-87	8.9	9.1	9.3	0.0	85.4	88.0	92.7	-1.7
#	12-OCT-87	8.9	9.0	9.2	-0.1	83.8	85.7	88.5	-2.3
#	13-OCT-87	8.9	9.1	9.2	0.1	83.0	85.8	88.5	0.1
	14-OCT-87	8.9	9.2	10.0	0.1	82.2	86.6	94.2	0.8
	15-OCT-87	9.8	9.9	10.0	0.7	91.0	92.8	94.2	6.2
	16-OCT-87	9.8	9.8	9.9	-0.1	91.0	93.2	94.5	0.4
	17-OCT-87	9.7	9.8	10.0	0.0	90.4	92.9	95.9	-0.3
	18-OCT-87	9.8	10.0	10.1	0.2	92.7	94.7	96.5	1.8
#	19-OCT-87	9.8	10.0	10.1	0.0	91.8	93.4	95.6	-1.3
#	20-OCT-87	9.9	10.0	10.2	0.0	91.6	93.8	96.4	0.4
	21-OCT-87	9.8	9.9	10.1	-0.1	91.0	93.4	95.6	-0.4
	22-OCT-87	9.8	10.0	10.3	0.1	91.6	92.8	94.3	-0.6
	23-OCT-87	10.0	10.1	10.3	0.1	87.9	90.9	94.1	-1.9
	24-OCT-87	10.0	10.2	10.3	0.1	90.4	92.8	96.0	1.9
	25-OCT-87	10.3	10.4	10.4	0.2	95.0	96.2	96.7	3.4
	26-OCT-87	10.0	10.2	10.4	-0.2	89.5	92.6	95.0	-3.6
#	27-OCT-87	10.2	10.3	10.4	0.1	90.9	92.9	94.8	0.3
	28-OCT-87	10.2	10.3	10.5	0.0	91.8	93.2	96.5	0.3
#	29-OCT-87	10.3	10.4	10.5	0.1	96.0	96.7	97.4	3.5
#	30-OCT-87	10.1	10.3	10.3	-0.1	89.3	91.5	92.5	-5.2
	31-OCT-87	10.3	10.4	10.5	0.1	91.6	93.0	94.6	1.5
	GRAND MONTHLY MEAN	9.3	9.5	9.7	0.1	88.0	90.3	93.1	0.3

\# A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMGM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-NOV-87 to 30-NOV-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
1-NOV-87	7.8	8.0	8.6	0.0	6.7	6.7	6.7	0.0	109.4	111.0	113.3	0.0
@ 2-NOV-87	7.4	7.6	7.8	-0.4	6.7	6.7	6.7	0.0	113.3	115.9	121.1	4.9
@ 3-NOV-87	6.6	6.9	7.0	-0.7	6.7	6.7	6.8	0.0	109.4	115.6	128.9	-0.3
4-NOV-87	7.0	7.8	8.2	0.9	6.7	6.7	6.7	0.0	113.3	117.0	121.1	1.4
@ 5-NOV-87	8.2	8.3	8.6	0.5	6.7	6.7	6.8	0.0	101.6	106.8	121.1	-10.2
@ 6-NOV-87	7.0	7.7	8.2	-0.6	6.7	6.7	6.7	0.0	105.5	108.7	113.3	1.9
@ 7-NOV-87	3.9	4.2	5.1	-3.5	6.7	6.8	6.8	0.1	113.3	114.8	117.2	6.1
8-NOV-87	3.9	3.9	3.9	-0.3	6.7	6.8	6.8	0.0	113.3	116.7	121.1	1.9
@ 9-NOV-87	3.9	4.6	5.5	0.7	6.7	6.8	6.8	0.0	113.3	127.6	144.5	10.9
@ 10-NOV-87	4.3	4.6	5.1	0.0	6.7	6.7	6.8	-0.1	105.5	109.9	125.0	-17.7
@ 11-NOV-87	3.5	4.0	4.3	-0.6	6.7	6.7	6.8	0.0	105.5	107.8	113.3	-2.1
12-NOV-87	1.6	2.9	3.9	-1.1	6.8	6.8	6.8	0.1	93.7	101.1	109.4	-6.7
13-NOV-87	1.2	1.5	2.3	-1.4	6.7	6.8	6.8	0.0	101.6	105.1	136.7	4.0
14-NOV-87	2.3	2.7	3.1	1.2	6.7	6.8	6.9	0.0	105.5	110.2	113.3	5.1
15-NOV-87	2.3	2.8	3.1	0.1	6.8	6.8	6.8	0.0	109.4	113.4	117.2	3.2
16-NOV-87	2.0	2.0	2.3	-0.8	6.7	6.8	6.8	0.0	109.4	121.6	132.8	8.2
17-NOV-87	2.0	2.2	2.7	0.2	6.7	6.7	6.8	-0.1	101.6	115.1	132.8	-6.5
@ 18-NOV-87	2.7	4.2	5.1	2.0	6.7	6.7	6.8	0.0	97.6	103.8	109.4	-11.3
19-NOV-87	3.9	4.3	5.1	0.1	6.7	6.7	6.8	0.0	101.6	105.0	113.3	1.2
@ 20-NOV-87	2.7	3.2	3.9	-1.1	6.7	6.7	6.8	0.0	101.6	107.5	113.3	2.5
21-NOV-87	2.0	2.9	3.1	-0.3	6.6	6.7	6.7	0.0	97.6	99.9	101.6	-7.6
@ 22-NOV-87	0.4	0.9	1.6	-2.0	6.7	6.7	6.7	0.0	109.4	117.6	128.9	17.7
23-NOV-87	0.4	0.5	0.8	-0.4	6.7	6.7	6.7	0.0	109.4	114.9	121.1	-2.7
24-NOV-87	1.2	1.7	2.3	1.2	6.7	6.7	6.7	0.0	97.6	108.1	121.1	-6.8
25-NOV-87	2.3	2.5	2.7	0.8	6.7	6.7	6.7	0.0	97.6	108.9	121.1	0.8
26-NOV-87	0.4	1.4	2.7	-1.1	6.6	6.7	6.8	0.0	82.0	92.8	117.2	-16.1
27-NOV-87	0.4	0.4	0.4	-1.0	6.7	6.7	6.7	0.0	89.8	107.2	113.3	14.4
28-NOV-87	0.4	0.4	0.4	0.0	6.7	6.7	6.7	0.0	105.5	114.1	117.2	6.9
@ 29-NOV-87	0.4	0.4	0.4	0.0	6.6	6.7	6.7	0.0	109.4	113.9	121.1	-0.2
30-NOV-87	0.4	1.0	2.0	0.6	6.7	6.7	6.8	0.0	117.2	129.9	167.9	16.0
GRAND MONTHLY MEAN	3.1	3.5	4.0	-0.2	6.7	6.7	6.8	0.0	104.7	111.4	121.6	0.6

@ A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AWQM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-NOV-87 to 30-NOV-87

	DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
		MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
	1-NOV-87	10.3	10.4	10.5	0.0	90.5	91.5	93.0	0.0
#	2-NOV-87	10.4	10.4	10.5	0.0	90.2	91.1	91.8	-0.4
#	3-NOV-87	10.3	10.4	10.5	0.0	87.1	88.9	90.0	-2.2
	4-NOV-87	10.3	10.3	10.4	-0.1	89.3	90.7	91.4	1.8
#	5-NOV-87	10.3	10.3	10.5	0.0	90.7	91.7	93.7	1.0
#	6-NOV-87	10.2	10.3	10.4	0.0	87.3	89.9	92.1	-1.8
#	7-NOV-87	10.5	10.7	10.7	0.4	82.9	84.5	86.8	-5.4
	8-NOV-87	10.6	10.7	10.8	0.0	83.5	84.5	85.3	0.0
#	9-NOV-87	10.8	10.9	10.9	0.2	85.3	87.3	89.6	2.8
#	10-NOV-87	10.9	11.0	11.0	0.1	87.4	88.1	89.0	0.8
#	11-NOV-87	11.0	11.2	11.3	0.2	87.5	88.2	89.0	0.1
	12-NOV-87	11.3	11.4	11.4	0.2	84.1	87.7	90.2	-0.5
	13-NOV-87	11.3	11.4	11.6	0.0	82.6	84.5	87.7	-3.2
	14-NOV-87	11.4	11.6	11.7	0.2	87.4	88.4	89.5	3.9
	15-NOV-87	11.6	11.7	11.9	0.1	88.6	90.0	91.0	1.6
	16-NOV-87	11.6	11.7	11.8	0.0	86.7	87.8	89.4	-2.2
	17-NOV-87	11.6	11.8	12.0	0.1	86.7	88.7	91.6	0.9
#	18-NOV-87	11.9	11.9	12.0	0.1	91.6	94.8	97.5	6.1
	19-NOV-87	11.6	11.7	11.9	-0.2	91.5	93.6	96.9	-1.2
#	20-NOV-87	11.5	11.6	11.7	-0.1	88.0	90.1	92.1	-3.5
	21-NOV-87	11.4	11.5	11.6	-0.1	85.6	88.2	89.5	-1.9
#	22-NOV-87	11.1	11.3	11.5	-0.2	80.6	82.3	83.4	-5.9
	23-NOV-87	11.4	11.5	11.6	0.2	81.4	82.5	84.0	0.2
	24-NOV-87	11.6	11.7	12.0	0.2	84.9	87.2	90.6	4.7
	25-NOV-87	11.7	11.9	12.4	0.2	88.3	90.5	93.9	3.3
	26-NOV-87	12.1	12.2	12.5	0.3	87.0	90.1	94.5	-0.4
	27-NOV-87	12.0	12.1	12.3	-0.1	85.9	86.4	87.5	-3.7
	28-NOV-87	11.8	12.0	12.1	-0.1	83.8	85.5	86.4	-0.9
#	29-NOV-87	11.7	11.8	11.9	-0.2	84.2	84.7	85.3	-0.8
	30-NOV-87	11.9	12.0	12.1	0.2	85.3	87.6	90.8	2.9
	GRAND MONTHLY MEAN	11.2	11.3	11.5	0.1	86.5	88.2	90.1	-0.1

\# A day with less than 24 values.

**** No data values for that day.

∂ A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)

SUMMARY OF DAILY AMOM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-DEC-87 to 31-DEC-87

DAY	TEMPERATURE C				pH units				SPECIFIC CONDUCTANCE us/cm			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
1-DEC-87	2.0	2.5	2.7	0.0	6.3	6.6	6.8	0.0	70.3	99.8	132.8	0.0
2-DEC-87	2.0	2.0	2.3	-0.5	6.3	6.3	6.4	-0.3	58.6	64.8	70.3	-35.0
3-DEC-87	0.8	1.2	1.6	-0.8	6.3	6.4	6.4	0.1	54.7	54.8	58.6	-10.0
4-DEC-87	0.4	0.6	0.8	-0.6	6.2	6.3	6.3	-0.1	50.8	51.9	54.7	-2.9
5-DEC-87	0.4	0.5	0.8	-0.1	6.2	6.2	6.2	-0.1	50.8	54.2	54.7	2.3
6-DEC-87	0.0	0.2	0.4	-0.3	6.2	6.2	6.3	0.0	54.7	58.1	58.6	3.9
# 7-DEC-87	0.0	0.3	0.4	0.1	6.3	6.3	6.4	0.1	58.6	62.7	66.4	4.6
8-DEC-87	0.0	0.2	0.4	-0.1	6.3	6.3	6.5	0.0	62.5	66.6	78.1	3.9
9-DEC-87	0.0	0.5	0.8	0.3	6.3	6.4	6.4	0.1	66.4	70.5	74.2	3.9
10-DEC-87	0.0	0.9	1.2	0.4	6.4	6.4	6.4	0.0	70.3	73.4	78.1	2.9
11-DEC-87	0.0	1.2	1.2	0.3	6.3	6.4	6.4	0.0	70.3	73.2	78.1	-0.2
12-DEC-87	0.0	0.7	1.2	-0.5	6.4	6.4	6.5	0.0	70.3	74.9	78.1	1.7
13-DEC-87	0.0	0.5	1.2	-0.2	6.4	6.4	6.5	0.0	70.3	74.2	78.1	-0.7
14-DEC-87	0.0	0.3	0.4	-0.2	6.4	6.5	6.5	0.1	78.1	84.1	89.8	9.9
15-DEC-87	0.0	0.1	0.4	-0.2	6.4	6.4	6.5	-0.1	82.0	85.6	89.8	1.5
# 16-DEC-87	0.0	0.0	0.0	0.0	6.4	6.5	6.5	0.1	82.0	88.0	93.7	2.4
17-DEC-87	0.0	0.0	0.0	0.0	6.5	6.5	6.5	0.0	89.8	92.3	93.7	4.3
18-DEC-87	0.0	0.0	0.0	0.0	6.3	6.4	6.5	-0.1	82.0	87.9	89.8	-4.4
# 19-DEC-87	0.0	0.0	0.0	0.0	6.4	6.4	6.4	0.0	89.8	90.8	93.7	2.9
20-DEC-87	0.0	0.0	0.0	0.0	6.3	6.4	6.4	0.0	89.8	91.5	93.7	0.7
21-DEC-87	0.0	0.0	0.0	0.0	6.4	6.4	6.4	0.0	85.9	90.3	93.7	-1.2
22-DEC-87	0.0	0.0	0.0	0.0	6.4	6.4	6.5	0.0	85.9	91.1	93.7	0.8
23-DEC-87	0.0	0.0	0.0	0.0	6.4	6.4	6.5	0.0	85.9	88.7	89.8	-2.4
24-DEC-87	0.0	0.0	0.0	0.0	6.4	6.4	6.5	0.0	89.8	92.8	93.7	4.1
# 25-DEC-87	0.0	0.0	0.0	0.0	6.4	6.5	6.5	0.1	89.8	91.6	93.7	-1.2
26-DEC-87	0.0	0.0	0.0	0.0	6.4	6.4	6.5	-0.1	85.9	88.7	89.8	-2.9
# 27-DEC-87	0.0	0.0	0.0	0.0	6.4	6.4	6.5	0.0	89.8	94.8	97.6	6.1
28-DEC-87	0.0	0.0	0.0	0.0	6.3	6.4	6.4	0.0	89.8	91.3	97.6	-3.5
29-DEC-87	0.0	0.0	0.0	0.0	6.3	6.4	6.4	0.0	89.8	92.1	97.6	0.8
30-DEC-87	0.0	0.0	0.0	0.0	6.3	6.4	6.5	0.0	89.8	95.0	101.6	2.9
# 31-DEC-87	0.0	0.0	0.0	0.0	6.3	6.3	6.4	-0.1	89.8	90.7	93.7	-4.3
GRAND MONTHLY MEAN	0.2	0.4	0.5	-0.1	6.3	6.4	6.4	0.0	76.6	80.9	85.4	-0.3

\# A day with less than 24 values.

**** No data values for that day.

SUMMARY OF DAILY AMGM VALUES FOR THE ST. CROIX RIVER AT MILLTOWN

Period from 01-DEC-87 to 31-DEC-87

DAY	DISSOLVED OXYGEN mg/l				DISSOLVED OXYGEN % saturation			
	MIN.	MEAN	MAX.	R/CHG	MIN.	MEAN	MAX.	R/CHG
1-DEC-87	11.7	11.9	12.1	0.0	89.2	90.3	91.2	0.0
2-DEC-87	11.4	11.7	12.1	-0.2	85.6	87.5	90.8	-2.8
3-DEC-87	12.1	12.1	12.3	0.4	87.4	88.8	90.0	1.3
4-DEC-87	12.1	12.2	12.3	0.1	87.0	88.0	89.0	-0.8
5-DEC-87	11.7	12.0	12.1	-0.2	84.2	86.0	87.4	-2.0
6-DEC-87	11.9	12.0	12.1	0.0	84.4	85.6	87.0	-0.4
@ 7-DEC-87	12.1	12.3	12.5	0.3	86.6	87.9	89.2	2.3
8-DEC-87	11.9	12.2	12.5	-0.1	84.4	86.9	89.2	-1.0
9-DEC-87	12.1	12.2	12.3	0.0	86.4	87.6	88.5	0.7
10-DEC-87	12.1	12.1	12.2	-0.1	87.4	88.1	88.9	0.5
11-DEC-87	11.8	11.9	12.1	-0.2	85.7	87.4	88.3	-0.7
12-DEC-87	11.9	12.0	12.1	0.1	85.3	86.2	87.8	-1.2
13-DEC-87	11.6	11.8	12.0	-0.2	83.1	84.6	87.8	-1.6
14-DEC-87	11.7	11.8	11.9	0.0	82.8	84.2	85.3	-0.4
15-DEC-87	11.4	11.6	11.7	-0.2	81.1	82.2	84.2	-2.0
@ 16-DEC-87	11.3	11.5	11.7	-0.1	80.0	81.2	82.8	-1.0
17-DEC-87	11.3	11.4	11.4	-0.1	80.0	80.4	81.1	-0.8
18-DEC-87	11.0	11.2	11.4	-0.2	77.7	79.2	80.5	-1.2
@ 19-DEC-87	10.9	11.0	11.1	-0.2	77.3	78.1	78.9	-1.1
20-DEC-87	10.7	10.9	11.0	-0.1	76.1	77.1	78.3	-1.0
21-DEC-87	10.9	11.1	11.4	0.2	77.3	78.9	81.1	1.8
22-DEC-87	11.3	11.4	11.5	0.3	80.0	80.7	81.6	1.8
23-DEC-87	11.3	11.4	11.5	0.0	80.0	80.6	81.6	-0.1
24-DEC-87	11.3	11.5	11.7	0.1	80.0	81.3	82.8	0.7
@ 25-DEC-87	11.5	11.6	11.7	0.1	81.6	82.1	82.8	0.8
26-DEC-87	11.4	11.5	11.6	-0.1	81.1	81.6	82.2	-0.5
@ 27-DEC-87	11.0	11.3	11.5	-0.2	78.3	79.8	81.6	-1.8
28-DEC-87	11.0	11.2	11.3	-0.1	78.3	79.2	80.0	-0.6
29-DEC-87	10.8	11.0	11.2	-0.2	76.7	77.9	79.4	-1.3
30-DEC-87	10.6	10.8	11.0	-0.2	75.0	76.6	77.7	-1.3
@ 31-DEC-87	10.7	10.7	10.8	-0.1	75.6	76.1	76.7	-0.5
GRAND MONTHLY MEAN								
	11.4	11.6	11.7	0.0	81.8	83.0	84.3	-0.5

@ A day with less than 24 values.

**** No data values for that day.

a A value for dissolved oxygen is approaching the objective. (5.5 mg/l or 70% saturation)